THE Journal

OF THE AMERICAN DENTAL ASSOCIATION

JULY

1952

PERIODONTAL WORKSHOP

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NINETY-THIRD ANNUAL SESSION

VOLUME 45
NUMBER 1

ST. LOUIS, MO.—SEPT. 8-11

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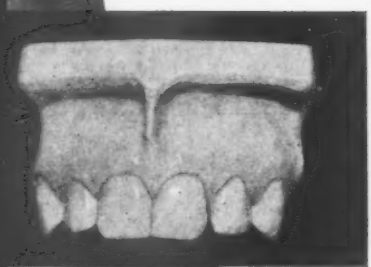

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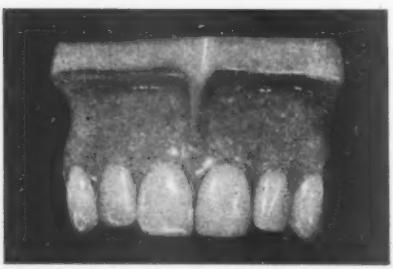

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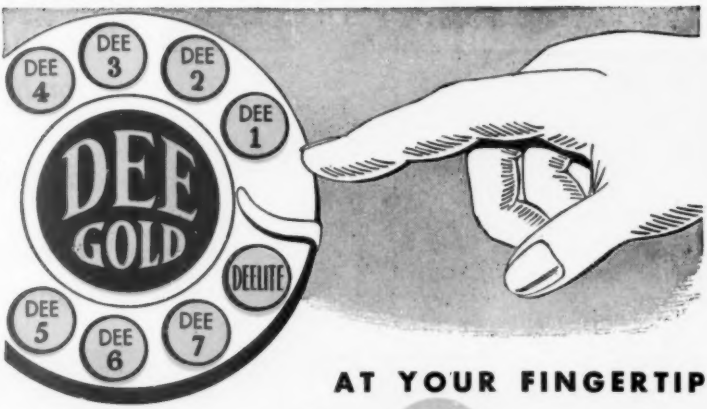

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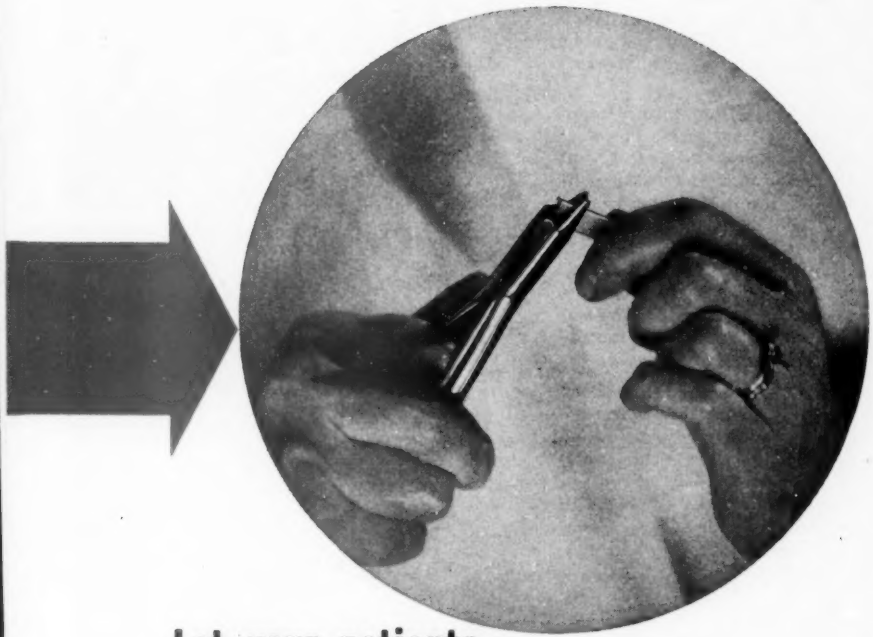

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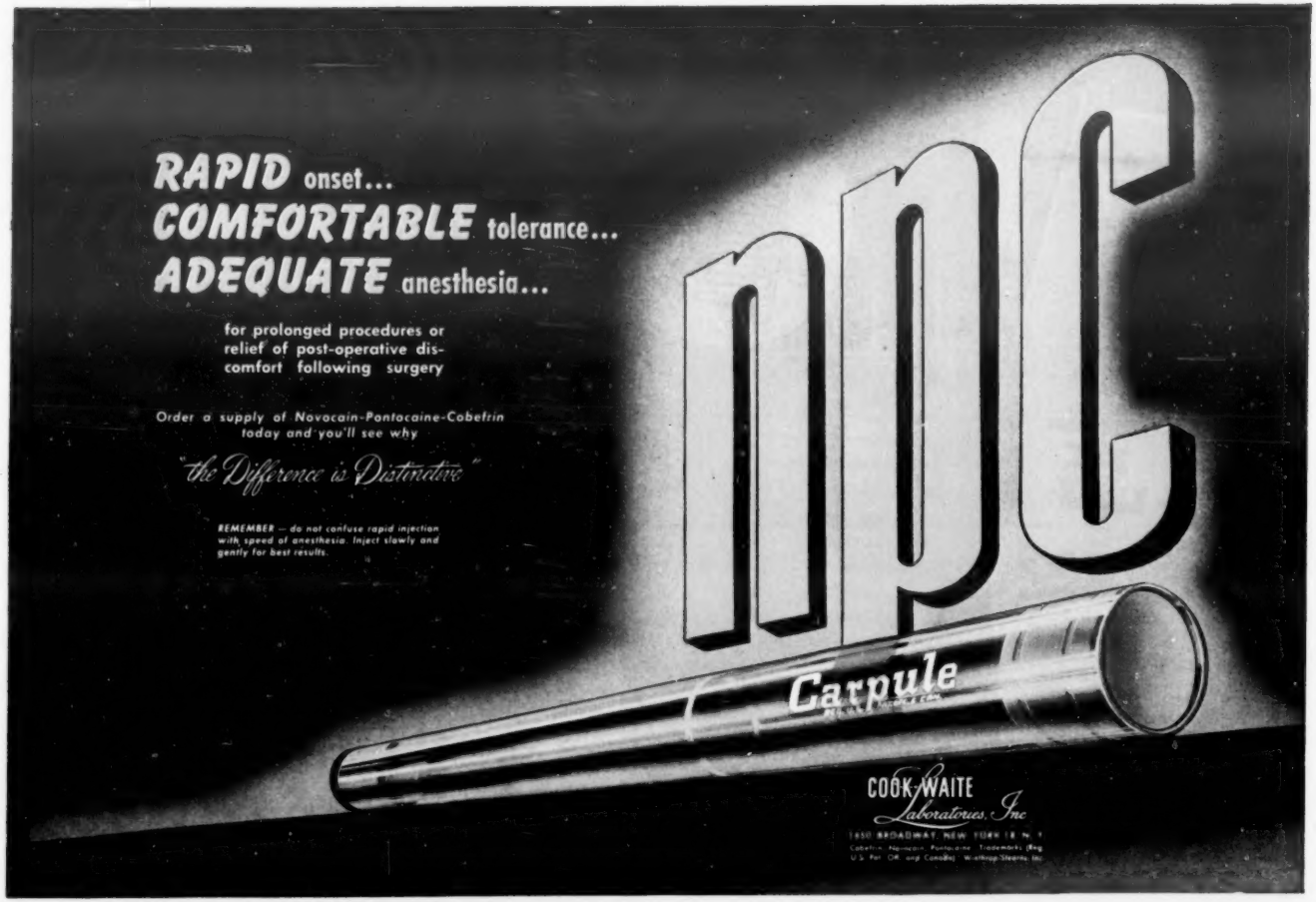
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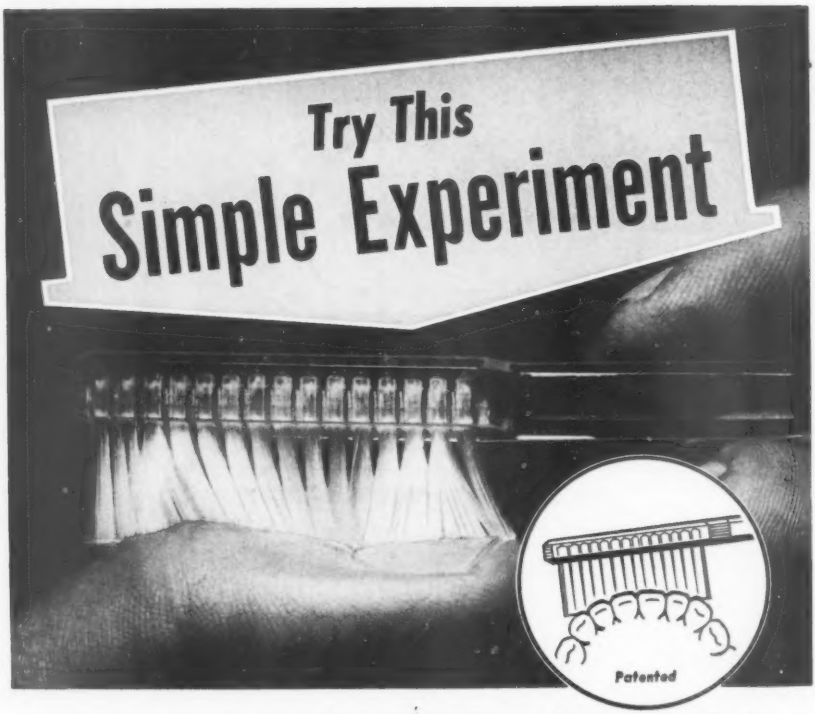

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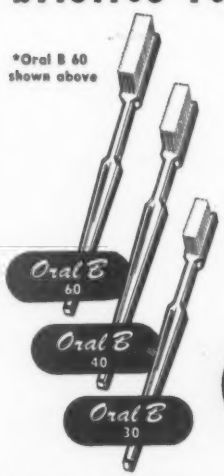

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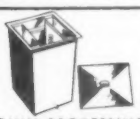

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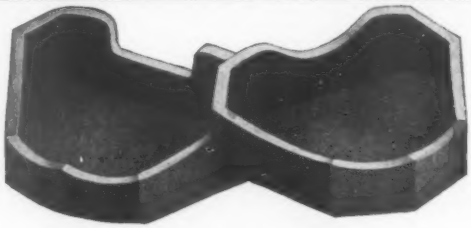

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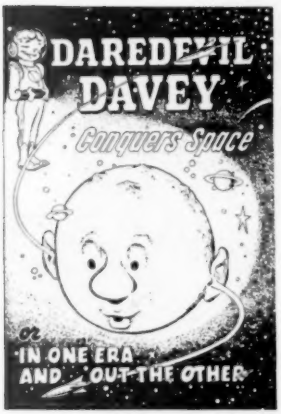

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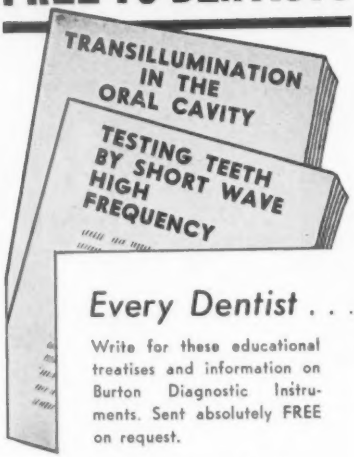

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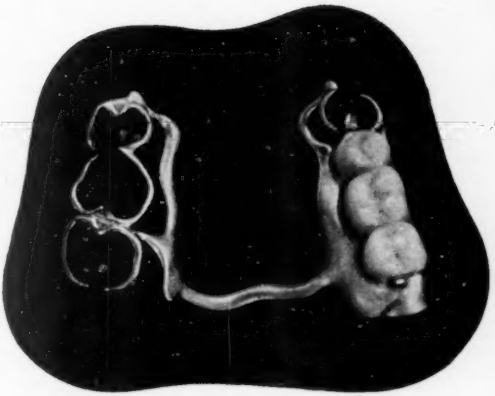

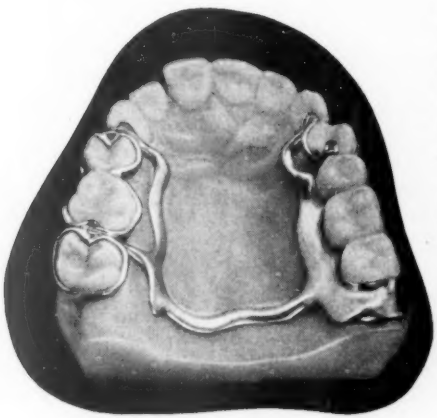

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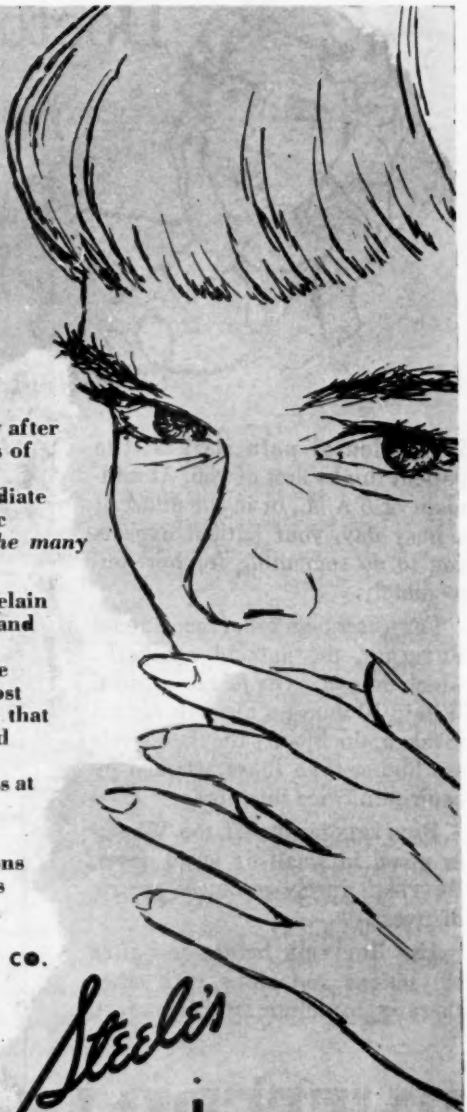

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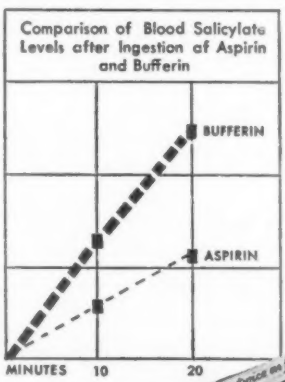

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JULY 1952 VOLUME 45 • NUMBER 1

THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION

Reports of evaluating committees of 1951 periodontal workshop

The scientific section of the June 1952 issue of THE JOURNAL was devoted exclusively to scientific papers presented at the workshop on periodontal disease which was conducted by the University of Michigan, School of Public Health and School of Dentistry, in Ann Arbor, Michigan, September 10-15, 1951. In all, 20 papers, dealing with every known aspect of the subject, were included in that issue.

This is the first time probably that the consonant as well as the divergent opinions and conclusions of leaders in this important, although not too thoroughly explored, field of dentistry have been brought together and made available under one cover. Indeed, the June 1952 issue of THE JOURNAL may become recognized as a ready reference volume on periodontal diseases—a handbook for every dentist. Certainly it contains all that is known, and acknowledges that much is unknown, about this most prevalent human disorder.

It was the original intent of the editorial department and of the directors of the workshop to publish both the formal papers and the conclusions of the conference in one issue of THE JOURNAL. However, limited space and limited time required that the conclusions be held over until this month and presented as Part II of the deliberations. These conclusions, herewith published, were obtained in the following manner:

During the latter stages of the five-day periodontal conference the 200 participants assembled in five separate evaluating committees. Each of these committees not only evaluated certain of the papers presented during the week's meeting but reviewed and utilized all of the available literature on pertinent aspects of the subject. The conclusions drawn and herewith published do not, in all instances, represent the unanimous opinion of the participants as evidenced by the several minority reports. However, they do represent the unbiased opinions of a large number of earnest students and a well balanced picture of today's knowledge of the disease. Certainly they indicate significantly the need for more intense scientific investigation of the subject.

Report of evaluating committee I
Behavior of gingival and supporting tissues

The matter of "behavior" as applied to any biologically responsive tissue involves clinical, roentgenographic and microscopic measurements. Biologically, it is evident that such methods of measurement must be predicated on inconsistent factors in the patient's reaction.

Regardless of this variable situation, it is obvious further that a zone of physiologic maneuverability persists. Just when this characteristic of reaction becomes pathologic must be determined in terms of the three methods of measurement and must be explained in terms of abnormality which are based on individual tables of experience that have been combined to represent a majority opinion.

The histologic individuality existing in the periodontium makes critical evaluation of all observations, in reality, an assessment of the fundamental processes which occur in an area where special tissues exist in a particular arrangement.

Since data are not complete with respect to the behavior of the gingival and supporting tissues, it necessarily follows that the report to be presented must be equivocal in many points. All efforts, however, consistent with biologic reality, have been utilized to attempt to formulate as much as possible complete or positive answers.

OBJECTIVE CRITERIA FOR DEFINING NORMAL GINGIVA

What objective criteria are available for defining normal gingiva and supporting structures clinically, roentgenographically and microscopically?[1-6]

Normal Gingiva • The objective criteria available for defining healthy gingiva clinically are:

1. Color—pink.
2. Texture—stippled (to varying degrees).
3. Architecture — knifelike gingival margins and well-formed papillae.
4. Consistency—firm.
5. Gingival sulcus—of shallow depth free of any exudate.

The objective criteria available for defining healthy gingiva microscopically are:

1. An intact epithelial covering.
2. Projections of the lamina propria into the epithelium of the free and attached gingiva.
3. A free gingival groove. (This may or may not be demonstrable.)

4. Presence of gingival fibers extending into the free gingiva.

5. An intact crevicular epithelium.

6. An intact epithelial attachment to the tooth.

7. Variable accumulation of inflammatory elements usually near the bottom of the sulcus.

8. (Supplied by Milton B. Engel.) The connective tissue fibers embedded in an optically homogeneous ground substance. This ground substance consists largely of a carbohydrate-protein complex (glycoprotein) which is thought to be organized in a highly polymerized state. The ground substance is altered at the interphase between the epithelium and connective tissue to form, with the embedded fibers, the "basement membrane."

Healthy Supporting Structures • The objective criteria available for defining healthy supporting structures roentgenographically are:

1. Well-defined alveolar bone (lamina dura) continuous over the alveolar crest.

2. Alveolar process forming a net-like structure of bony trabeculae enclosing marrow spaces.

3. An even, thin, dark line representing the periodontal membrane.

4. Cortical layer of alveolar process.

5. Cementum of varying thickness.

The objective criteria available for defining healthy supporting structures microscopically are:

1. For periodontal membrane: Architecturally arranged collagenous fibers; width. (An average has been established of 0.18 to 0.25 mm., wider at the coronal portion, narrowing near the middle and widening at the apex.)

2. For bone: Well delineated marrow spaces; blood vessels in the marrow spaces; bundle bone on tension side; well distributed trabeculations.

3. For cementum: Acellular and cellular types in an incremental pattern; persistent, continuous layer of cementoid.

GINGIVAL STIPPLING

What is the nature of gingival stippling?[7, 8]

Clinically, stippling is a series of small depressions (King), and a network of low ridges (Orban). The texture is varied in location and arrangement. It may be finely grained or rough. If the depth of the gingival sulcus is slight, the stippling may extend to the gingival margin. It may also be localized to certain areas at the base of the interdental papillae.

Histologically, the presence of stippling is due to collagenous bundles of the lamina propria extending into the epithelium, or attaching the epithelium to the underlying structures.

INFLAMMATION IN CLINICALLY HEALTHY GINGIVA

Is there histologic evidence of inflammation in the clinically healthy gingiva?[3, 9, 10, 11]

The presence of lymphocytes, plasma cells and occasional segmented leukocytes is evidence of gingival inflammation in the clinically healthy gingiva.

Paul E. Boyle objected to this conclusion and his position follows:

"*Oral Histology and Embryology,* edited by Balint Orban, second edition, page 243, fourth paragraph, states accurately my position regarding the interpretation of the histologic findings.

The presence of leucocytes and polyblasts in the connective tissue at the bottom of the gingival sulcus should not, in itself, be con-

sidered a pathologic condition. It is evidence, rather, of a defense reaction in response to the constant presence of bacteria in the gingival sulcus. These cells form a barrier against the invasion of bacteria and the penetration of their toxins.

"Inflammation is primarily a clinical, not a histologic entity. Nonkeratinizing epithelium, covering the lingual tonsil and elsewhere, is physiologically permeated with lymphocytes and it exists in intimate relation with the underlying tissue. Here is an extreme example of the specialization of tissues for defensive purposes. Small local accumulations, underlying the crevicular epithelium, and found in clinically healthy gingivae, in my opinion, should be interpreted as a normal defensive reaction against surface microorganisms and not as evidence of inflammation. The finding of occasional segmented leukocytes does not alter the situation. These cells normally are present in the circulation. The surgical manipulation necessary to secure a gingival biopsy may be sufficient to account for their presence extravascularly."

Joseph L. Bernier stated that the presence of the designated cells in the gingiva represented a subclinical inflammatory reaction. His statement follows:

"The presence of the small lymphocytes, plasma cells, macrophages and occasional leukocytes in the gingiva at the base of the crevicular epithelium, grouped as they are, present a histologic picture indistinguishable from that seen in inflammation elsewhere. The loss of tone in the connective tissue fibers in the immediate vicinity and the endothelial proliferation do not indicate that those cells are a part of the reticulo-endothelial system as has been suggested. There is no reason to assume that inflammation becomes an entity only when the symptoms of swelling, redness, heat, pain and loss of function become evident. Certainly the steps which precede the appearance of those clinical symptoms are a part of the inflammatory process."

KERATINIZATION OF NORMAL GINGIVA

To what degree is the normal gingiva keratinized?[3, 12-16]

If it is agreed that keratinization is a process associated with the cytomorphosis of stratified squamous epithelium, then it necessarily follows that some degree of keratinization exists on the gingivae in all areas.

The product of keratinization, keratin, on the other hand, exists in variable quantities and form on the gingiva, but is absent on the crevicular epithelium.

THE EPITHELIAL ATTACHMENT AND THE TOOTH

What is the biologic association between the "epithelial attachment" and the tooth?[3, 17, 18]

In 1921 Gottlieb demonstrated with a young tooth that the bottom of the gingival crevice is not located, as was formerly believed, at the cementoenamel junction but on the surface of the enamel, and that the cervical part of the enamel is united with the epithelium. Gottlieb called this epithelium the "epithelial attachment."[3]

Manley[17] presents the following explanation of the attachment of the epithelium to the enamel: The primary cuticle is continuous with the organic substance of the prism sheaths of the enamel. During the process of eruption the primary cuticle fuses with the hornified layer of the oral epithelium. This organic junction between the oral epithelium, primary and secondary enamel cuticle and prism sheaths constitutes the epithelial attachment to the enamel. The firm connection between the epithelium and enamel is a primary union. It has been claimed that the secondary cuticle plays an important role in cementing the epithelium to the surface of the tooth, lying outside the primary enamel cuticle and serving as a protection. Its forma-

tion is not clear; some investigators claim that it develops in a manner similar to normal hornification by the transformation of the cells which are adjacent to the tooth surface. Others contend that this cuticle is a secondary product of the epithelial cells.[18]

There is a stronger organic union between the epithelium and the tooth than there is between the cells of the epithelium. This strong union is shown frequently by the connection of the epithelial attachment to the enamel surface in young people even after teeth have been extracted.[1] When the epithelial attachment migrates apically to rest partly or entirely on the cementum, attachment is achieved by the extension of epithelial pedicles into the spaces of the cementum.

REATTACHMENT IN PERIODONTAL HEALTH AND DISEASE

What are the biologic possibilities for reattachment in periodontal health and disease?[19-25]

There is evidence[19, 20, 21] that in periodontal health reattachment may occur. Reattachment refers to a reunion of the periodontal fibers to previously surgically denuded cementum. There also is evidence that a new epithelial attachment will be established under these conditions.

In periodontal disease a similar reattachment also may be achieved under favorable conditions.[22-25] When epithelium reattachment occurs, it does so through the medium of proliferation and with connective tissue it occurs by means of organization of the blood clot. However, the reattachment of connective tissue is achieved only following the complete removal of the epithelial attachment and the crevicular epithelium.

PERIODONTAL MEMBRANE FIBERS

On what factors does the arrangement and character of the periodontal membrane fibers depend?[26-36]

Possibly the most pertinent factor on which the arrangement and character of the periodontal membrane fibers depends is function. The fibers pass between the cementoblasts into the cementum.[26] They are the medium by which functional connection between the tooth and surrounding tissue is established.[27] The fibers are arranged in response to functional stimuli —no matter from what direction a force is applied to a tooth it is counteracted by one or more fiber groups.[28]

Loss of regular arrangement of fibers is noted in certain conditions. Under heavy stress[30] there is an increased amount of principal fibers along with a few loose indifferent fibers.[31] In disuse atrophy there is a decreased amount of principal fibers and indifferent connective tissue is predominant. When the alveolar crest is lost in the progress of inflammation during periodontitis, the fibers also are affected.[33]

There are systemic factors which alter the composition of the connective tissue cells and their collagen products—a classic example of this alteration is found with vitamin C deficiency.[34] There may be other factors unknown at this time which may alter the character of the connective tissue cells.[35]

As may be expected in old age, following reduction in function, the principal fibers are less prominent.[36] In conclusion it may be said that the structure, arrangement and thickness of the fibers are influenced by the demands which are made upon them.

CHANGES IN PERIODONTIUM OCCURRING AS RESULT OF AGING

Are there changes that occur in the periodontium as a result of the process of aging?

Epithelial Attachment and Gingivae [3, 37, 38, 39] • There are no changes found in the composition of the epithelial attachment resulting from age. There is, however, a prevalent theory advanced by

Gottlieb which states that with an increase in age the epithelial attachment proliferates downward from the enamel until it is entirely on the cementum and it continues to proliferate apically throughout life. This theory, however, has not been sufficiently substantiated. The epithelial proliferation is always associated with inflammatory processes, destruction of periodontal fibers, presence of calculus and bacterial films.

It may be concluded that the concept of continuous passive eruption must be reexamined. This process of migration of the epithelial attachment is not necessarily a physiologic process in all instances, but may be attributed to pathologic processes.

Deposition of Cementum • Cementum is deposited throughout the life of the tooth. This deposition has been attributed to (1) the process of aging, (2) a compensation for physiologic action or tooth eruption, (3) a response to the attrition of the teeth and (4) traumatic stresses in patients with good reactive power.[40-43]

Changes in Periodontal Membrane of Aged Individuals[44,45,46] • Various atrophic, inflammatory, hyperplastic and degenerative changes are commonly seen in the periodontal membranes of aged persons. Since periodontal disease in some form or other, plus systemic diseases, are prevalent, it has been impossible to attribute specific alterations in the periodontal membrane to age alone.

Alveolar Bone and Process • It is well known[47,48,49] that all bone structure responds to and is influenced by function. No valid evidence was found, however, to indicate that there are any specific changes, other than fatty replacement of the marrow, which occur in the alveolar process with age that do not occur in other bones of the skeleton.

Sex Differences in Structure of Periodontium • Are there structural differences in the periodontium which are characteristic for the two sexes?

Wentz, Maier and Orban[50] found that the only age period during which sex differences in the normal gingivae could be found was between 16 and 29 years of age. The differences were finer stippling with more delicate fiber bundles in the female than in the male.

PERIODONTAL ATROPHY

What is the cause and nature of periodontal atrophy?[21,3]

Definition • Atrophy is a gradual wasting away of a part or the reduction in size of a tissue without inflammatory changes.

Whether periodontal atrophy occurs other than through disuse, is a moot question, in spite of an overwhelming number of unsubstantiated claims.

Nature • Clinically atrophy is characterized by (1) the movement apically of all periodontal structures (other than cementum) and the exposure of the cementum, (2) absence of gingival inflammation.

Microscopically, atrophy exhibits (1) a gingival crevice whose depth apparently is maintained uniformly by following in an apical direction the moving bone, connective tissue of the gingiva, the epithelial attachment and the fibers of the periodontal membrane; (2) bony trabeculae which tend to become fewer in number and marrow spaces which tend to fibrose; (3) a thickened cementum; (4) a periodontal membrane whose fibers show vesicular atrophy and whose width decreases to one third of the normal functional range.

DIFFERENCES IN RESORPTION OF BONE AND CEMENTUM

What accounts for the differences in resorption experienced by bone and cementum?[28,51-58]

The mechanism of resorption of cementum and bone is identical; that is, by

the action of osteoclasts. Cementum shows under physiologic conditions, however, a remarkable resistance to resorption which probably can be explained on the basis of its continuous deposition and the covering of its surface by an uncalcified layer of cementoid. Uncalcified hard tissues, according to many observers, appear more resistant to resorption than calcified tissues.

The following dissenting opinion was supplied by Milton B. Engel:

"It has been shown by Carnes that the osteoid produced during low calcium and phosphorus type of rickets is readily resorbed following the administration of parathyroid extract. This evidence together with that provided by *in vitro* studies of the effect of enzymes on calcified, decalcified and uncalcified cartilage, bone and dentin would seem to suggest that these tissues may be more readily resorbed when they are in the state associated with the absence of calcium salts."

EFFECT OF INFLAMMATION ON ALVEOLAR BONE AND PROCESS

Does inflammation of the periodontium affect alveolar bone and process? If so, how?[49, 59, 60]

Inflammation of the gingiva follows the course of the blood vessels and extends along the vessels through the alveolar bone into the marrow spaces and only in exceptional instances does it penetrate into the periodontal membrane. Resorption of the alveolar crest from the gingival side leads to changes in the alveolar crest. Fatty marrow is replaced by fibrous marrow. Destruction of the bone is accompanied by a simultaneous disappearance of the organic and inorganic components of the ground substance and the so-called "lacunar" resorption results.

CHANGES IN ALVEOLAR BONE AND PROCESS CAUSED BY LOCAL FACTORS

Are the changes in alveolar bone and process that are produced by local factors the same as those changes that are produced by systemic factors?[61-78]

There is no precise evidence to indicate that the changes described in alveolar bone and process during the course of the periodontal disease which results from local factors differ materially from those produced in the presence of established systemic disease.

PROGRESS OF GINGIVAL INFLAMMATION

How does inflammation spread in periodontitis?[59, 79]

Gingival inflammation progresses, by way of the perforating interseptal arteries, directly into the marrow spaces of the alveolar process and along the periodontal side of the cortical bone. The inflammatory reaction advances apically along the course of the blood vessels. The alveolar crest on the gingival side is resorbed. This resorption is the first evidence of periodontitis to be observed roentgenographically. The fatty marrow is replaced by fibrous marrow. First there is resorption of the alveolar process and then the alveolar bone. Except for the presence of a few inflammatory cells at the orifice of the periodontal space or close to some alveolar perforating arteries in the periodontal membrane, there is no evidence of inflammatory involvement of the periodontal membrane.

SPREADING FACTOR IN PERIODONTAL DISEASE

What is the role of hyaluronidase or other "spreading" factors in periodontal disease?[80-88]

There is no direct evidence that hyaluronidase plays a role in periodontal disease. However, mucolytic enzymes have been shown to affect the glycoprotein ground substance in connective tissues and the cementing substance of the epithelium by depolymerization to a more fluid state.[80, 81, 86, 87] It has been shown

that mucolytic enzymes are elaborated by oral bacteria.[82] It also has been suggested that the cells of connective tissue and those involved in inflammation produce depolymerizing enzymes.[80, 82-85] The resulting solution of the extracellular components of the connective tissue might enhance the spread of inflammation, the degeneration, or both, in periodontal disease.[83, 84, 88]

ROLE OF PLASMA CELLS IN GINGIVA

What is the significance of plasma cells in the gingiva?[21, 55, 89-97]

The role of plasma cells in the gingiva has not been definitely established although they invariably are present in large numbers. There is general agreement that these cells are associated with the production of antibodies,[89-93] that they act as a defense against infection [1, 90, 96] and that their numbers increase in proportion to the concentration of abnormal protein.[91]

OCCLUSAL HYPOFUNCTION

Is occlusal hypofunction a factor in the production of periodontal disease?

In this discussion, occlusal hypofunction has been considered as any diminution in function from slight underfunction to complete disuse. Periodontal disease will include any variation in the periodontium.

Kellner[98] has shown instances of thickening of the cementum and thinning of the periodontal membrane of nonfunctioning teeth. He also has shown that the supporting bone has thinner trabeculae and larger marrow spaces (osteoporosis). Kronfeld[99] has shown that the main changes in hypofunction are seen in the investing tissues and are of an atrophic nature. Stones[46] has demonstrated with complete disuse that the periodontal membrane thins to half the average normal width. Coolidge[100] also has shown that the coarse fibers disappear and are replaced by loose connective tissue fibers without definite arrangement. Orban,[101] in a discussion of tissue changes from traumatic occlusion, presented a case in which no resorption existed on the cemental surface of a nonfunctioning tooth and which showed a narrowed periodontal membrane. Goldman[2] also has shown that atrophy of disuse produced a thin alveolar wall. He confirmed the findings of the others.

In this discussion of hypofunction the problems of secondary inflammation that would occur from the accumulation of food and debris were purposely deleted and, from the evidence obtained, it may be concluded that occlusal hypofunction is a definite factor in the production of changes in the periodontium.

HISTOPATHOLOGIC CHANGES IN OCCLUSAL TRAUMA

What are the histopathologic changes found in occlusal trauma?[32, 37, 99, 102, 103, 104]

The histopathologic changes found with occlusal trauma can be divided into three types: (1) those arising from vertical stress, (2) those arising from slight orthodontic movement and (3) those arising from heavy orthodontic pressure.

Vertical Stress • Box[102] performed an experiment with one sheep in which he added vertical stress to one tooth by means of a high gold crown and caused an increased depth of 1.5 mm. in the lingual gingival crevice on the crowned tooth.

Kronfeld,[99] in his observation of vertical stress, found that the stress produced no change in the gingival margin or crevice and concluded that hyperfunction acted as a stimulus to the periodontal tissues.

Orban,[101] in 1928, reported the tissue changes from traumatic occlusion which were found in the necropsy material from a 24 year old tuberculous man. He showed

that when teeth were lost and the remaining teeth subjected to trauma, definite changes developed in the periodontium, necrosis and resorption of bone appeared on the pressure side and subsequently repair followed.

Slight Orthodontic Pressure • Gottlieb and Orban completed an extensive study from which they were able to report that under slight pressure the periodontal membrane was compressed, the arteries became elliptical and the cortical plate was resorbed on the side of pressure. New bone was deposited on the opposite side of the alveolar bone. On cessation of the pressure new alveolar bone was formed as well as a normal periodontal membrane. On the tension side new bone was formed on the cortical plate.

Heavy Orthodontic Pressure • Gottlieb and Orban[37] showed that teeth move toward the bone and stop. The tooth is pressed against the cortical layer of bone, causing necrosis of the periodontal membrane. The cortical plate does not resorb from the side of the necrotic periodontal membrane, but from the medullary side. New bone is deposited on the opposite side of the cortical plate next to the medullary space. Resorption of the cortical plate produces a wide periodontal space which permits the tooth to move rapidly and to become loose. On cessation of the pressure a new alveolar bone and periodontal membrane are established.

Kerr[104] states further,

"In other cases the epithelial attachment proliferates apically in the area of destruction and a periodontal pocket develops. When a tooth moves in this manner the fibers on the side of tension are frequently over-extended and torn. Regeneration is slow and the epithelial attachment moves apically with a resultant formation of a periodontal pocket."

Other histopathologic changes found in occlusal trauma include cemental tears, spike formation, spurs, root fractures, and occasionally root resorption.

Conclusion • Occlusal trauma causes definite changes in the supporting structure. At this time, however, there is no conclusive evidence to show that traumatic occlusion *per se* will produce pocket formation.

The following opinion was added by R. Gordon Agnew and Max Gratzinger:

"In any evaluation of the significance of occlusal trauma, a category of moderate intermittent horizontal overstress should be included since the extremely heavy pressures employed in reported animal experimentation have limited the applicability of the findings to the clinical phenomenon of human occlusal trauma. Evidence from experiments, clinical or laboratory, involving the application of moderate intermittent overstresses, over long periods of time, is unavailable. It has been reported that such overstress in the human patient may cause microscopically observable alteration in the architecture of the periodontal membrane and adjacent structures."

VARIATIONS IN RESPONSE TO OCCLUSAL TRAUMA

Can reasons be established for the apparent variations in individual response to occlusal trauma?[103, 105, 106, 107]

There are not enough data at this time to defend definitely the reasons for the apparent variations in an individual response to occlusal trauma. On the other hand, a large amount of clinical observation has been reported to show that variations exist.

Orban,[103] Weinmann,[105] Gottlieb[106] and Glickman[107] have reported various studies of this problem; considerable work is required, however, to determine

the exact reason for this well-established clinical observation.

GINGIVAL FIBROSIS

Is gingival fibrosis a neoplastic condition?[108-125]

To facilitate the answer to the question, "Is gingival fibrosis a neoplastic condition?", the terms "gingival fibrosis" and "neoplasm" must be defined.

Gingival fibrosis is a lesion of unknown etiology characterized by enlargement of all, or nearly all, of the gingivae due to an increase in the subepithelial collagenous connective tissue.[109, 110, 113, 114, 117-120, 122, 125]

Histologically the lesion is indistinguishable from the simple fibroma.[109, 110, 118] Inflammation is not a feature unless secondarily imposed by trauma.[110, 115, 117, 118, 119] The lesion tends to recur after excision in some cases.[109, 113, 114, 125] The condition, gingival fibrosis, is not construed herein to include localized enlargements of the gingivae.[119]

A neoplasm has been defined as follows:[124] "a tumour, i.e., neoplasm, is an abnormal mass of tissue, the growth of which exceeds and is uncoordinated with that of normal tissue, and persists in the same excessive manner after cessation of the stimuli which evoke the change."

Willis[124] distinguishes tumors from other proliferative lesions. A comparison of the observed characteristics of gingival fibrosis with criteria given for (1) inflammatory and reparative proliferations, and (2) hyperplasias will be made.

Inflammatory and Reparative Proliferations. • Willis states,[124] "Reparative proliferation of cells, either in purely reparative processes or in association with inflammatory changes, clearly has a useful function, namely, repair." Case histories of gingival fibrosis do not indicate that the lesion is a process of repair. The process in question does not contribute to the health of the organism.[114, 116, 121, 124]

Hyperplasia • Willis states, "Hyperplasia is the proliferation of the cells of a tissue either (a) as a compensatory response to the loss of tissue of the same kind or to increased functional demands which the normal amount of tissue cannot satisfy, or (b) as a result of disturbed hormonal control of the activity of the tissue." There is no indication in the literature that gingival fibrosis is a response to loss of tissue or that the cases in question presented any unusual functional demands on the gingival tissue. No evidence is given to show that reduced function will aid in preventing or retarding regrowth of the lesion after gingivectomy.

Disturbed hormonal control may be a factor in gingival fibrosis. There is presumptive evidence in some instances that a concurrent hormonal disturbance is present,[113, 116, 118, 122, 125] and in other instances not.[109, 113, 115, 119, 120] Since evidence from recent research shows, however, that disturbed hormonal control may be a factor in the production of some neoplasms, the question arises if this criterion of disturbed hormonal control is valid as a basis for defining hyperplasia.[123]

Willis[124] also states that the distinctive character of neoplastic proliferation is that it is indefinitely progressive. Evidence from the literature indicates that the lesion may increase to a maximum size,[109, 113, 114, 118, 125] but there is no evidence to indicate what the ultimate maximum size may be.[109, 113, 115, 116, 118, 120, 122, 125] If the lesion does continue to enlarge, it enlarges slowly.

The process resembles keloid formation in its histologic appearance and in its tendency to recur after removal.[109] Case histories of gingival fibrosis do not, however, show evidence of an associated tendency for keloid formation in other parts of the body.[109]

On the basis of the observed characteristics of gingival fibrosis the lesion cannot be classified definitely as a neoplasm or as hyperplasia at this time.

PERIODONTOSIS

Does periodontosis exist as an entity? If so, what is its pathogenesis?[32, 108, 126-133]

In 1920, Gottlieb[126] described the condition which now generally is called periodontosis as "diffuse atrophy of alveolar bone." He elaborated on this view in 1923.[106] The following year Box[32] divided periodontosis into the "simplex" and "complex" forms, the latter being essentially the same as Gottlieb's "diffuse atrophy."

The literature contains three papers, published in 1930 and 1931, in which Mueller, Rony and Kronfeld[127, 128, 129] report the complete case history of a patient with this condition.

Thoma and Goldman,[130] in 1937, corroborated Gottlieb's conception of "diffuse atrophy" and they concluded that the primary pathologic changes were non-inflammatory.

In 1942 Orban and Weinmann[131] discussed periodontosis in detail. They stated that "the earliest symptom is migration of teeth" which "occurs without inflammation in the periodontal tissues. Subsequently, the teeth loosen; pocket formation and inflammation are secondary occurrences." They state further that the first stage of this disease is short and that the secondary changes, especially inflammation, develop and obscure the primary conditions. Because of this behavior the first stage is not often recognized clinically. They say "thus, trauma and inflammation can be eliminated as causative agents."

Goldman,[132] in 1947, reported a study of periodontosis in the spider monkey and in his paper defined periodontosis as "a degenerative non-inflammatory disease affecting the supporting structures of the teeth." He concluded that the "clinical and histopathologic findings in these monkeys corroborate the observations of Gottlieb that periodontal disease can arise from a degenerative non-inflammatory process."

Hine, in 1951, during a personal interview, stated that it was his opinion that periodontosis does exist as an entity but he agreed with Orban and Weinmann in that it was not often observed as such clinically.

Bernier,[133] in a paper published in 1949, states,

"Periodontitis is, in all respects, an inflammatory reaction, even to the so-called periodontosis in which degenerative phases of inflammation overshadow the other changes. Indeed, in certain instances the inflammation may appear to be totally absent."

He states further "so-called periodontosis occurs only occasionally and perhaps represents no more than 2 to 3 per cent of all cases seen."

It appears from the evidence to be found in the literature that periodontosis does exist as an entity and that its pathogenesis is best described in the summary of Orban and Weinmann.[131]

In the development of diffuse atrophy, or periodontosis, three stages are differentiated. The first stage is characterized by degeneration of the principal fibers of the periodontal membrane. The first consequence of this process is probably the cessation of cementum formation. Simultaneously, resorption of the alveolar bone begins because of a lack of functional stimuli from the teeth as well as an increase in tissue pressure which results from the accumulation of edema and the proliferation of capillaries. This increase of tissue pressure also accounts for the migration of the tooth from the affected area. As a cause for the initiation of pathologic events which bring about a complete picture of periodontosis, intrinsic factors have to be considered primarily. Such factors may be the dysfunction of different endocrine glands, toxins from different sources, metabolic disturbances and dietary deficiencies. The preference of the disease for a certain location may be due to a functional insufficiency of the suspensory apparatus. This functional in-

sufficiency can be attributed to toxic influences which impair the physiologic regenerative process in the connective tissue of the supporting structures, exposed to constant mechanical influences.

The second stage is characterized by the rapid migration of the epithelial attachment along the affected cementum. There also may be a proliferation of the epithelial remnants in the periodontal membrane. With the epithelial proliferations the first signs of an inflammatory reaction become evident. The inflammation can be explained satisfactorily by the penetration of toxins from the gingival crevice. These toxins follow the course of the capillaries as well as epithelial structures. The second stage cannot be distinguished clinically from the first. Both stages are of short duration. The first stage, however, may be completely repaired if the primary causes cease, whereas the second stage must lead to the third stage.

The degeneration of the epithelial tissue at the bottom of the gingival crevice causes the development of deep pockets and, thus, the third stage follows in the development of periodontosis. The inflammatory reaction is aggravated, leading to an obliteration of the primary symptoms. Large portions of the supporting tissues are destroyed and even normal occlusal forces cause secondary traumatic changes. Clinically this third stage is observed most frequently.

A number of points of view were expressed in the discussion of periodontosis as an entity. In the acceptance of the Committee's report it was voted that three of these statements be appended.

Henry M. Goldman stated:

"Periodontosis, a disease of the attachment apparatus of the teeth, seen for the most part in young individuals, is characterized by early loosening and migration of the teeth. The clinical behavior of this disease is such that, roentgenographically, bone loss takes place in a rather rapid fashion and loosening of the teeth is progressive in nature. In the initial phase, gingival changes are either absent or are of such a nature that one cannot attribute the loosening and migration of the teeth to them. The signs and symptoms of this disease, as characterized by its clinical behavior, age pattern, and roentgenographic changes, give rise to the opinion that such a disease process can be regarded as a clinical entity."

Balint Orban concluded:

"Periodontosis is an entity, taking either the clinical or the histopathologic appearance into consideration. It is true, when the patient seeks treatment, that inflammation of the periodontal tissues is a dominating feature. The early development of the condition, however, is of a degenerative nature and inflammation is a secondary occurrence.

"Inflammation is a tissue reaction of generalized nature and will present itself as a defense reaction caused by tissue damage. This tissue damage can be degeneration, which then has to be considered the primary factor and inflammation the secondary factor."

Sigurd Ramfjord, on the basis of his research, argued:

"Evidence of inflammation is always present in a periodontal pocket. The retrogressive tissue changes which have been described in the few reported histologic investigations of periodontosis may be due to individual variation in inflammatory response to various types of injury. Clinical observation that periodontosis in many cases can be arrested by adequate local therapy tends to support the importance of local irritation in this disease. From present knowledge it is not unequivocally established that periodontosis is a disease entity of pure degenerative nature, discernedly different from periodontitis."

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Report of evaluating committee II
Local factors in periodontal disease

There is general agreement that local factors play a most important part in periodontal disease, as has been brought out by the Workshop lectures and the survey of the dental literature by this Committee. Some of these factors are, in themselves, of primary importance, while others are important only as they are superimposed on systemic or other primary conditions. The Committee was instructed to evaluate the extent of the effect of each factor, but was unable to do so because of the multiplicity of local and systemic differences, such as constitutional, physical, biochemical, and metabolic variations in individuals.

CALCULUS

There is much clinical and histologic evidence to indicate that calculus is a cause of irritation and contributes to the ulceration of crevicular epithelium and subsequent periodontal disease. Furthermore, it interferes with mouth hygiene, favors the retention of food, and provides opportunity for bacterial accumulation. It is impossible, on the basis of the information available at present, to state that the amount and position of destroyed alveolar bone consistently is related to subgingival calculus.[1-13]

ORAL HYGIENE

Much evidence indicates that poor oral hygiene and its concomitant calculus, food debris, and bacterial accumulation, can, in itself, be the etiologic factor in gingivitis. There have been isolated instances reported, however, in which gingivitis did not follow poor oral hygiene.[14-17]

IMPROPER BRUSHING

Improper use of the toothbrush can be harmful if local irritants are present or if an acute inflammation exists. Even in a healthy mouth the incorrect use of the toothbrush possibly may produce irritation of the gingivae and their subsequent recession. Closely related to toothbrushing is the use of stimulators, toothpicks and dental floss. Regardless of their therapeutic value the improper use of such agents may prove detrimental if traumatic injury is produced.[14, 18, 19, 20]

ORAL HABITS

There is no evidence from studies carried out under well controlled conditions to designate the effect of pernicious oral habits, but clinical observations have shown that abnormal habits may produce temporary stimulation and lead eventually to irritation and trauma of the tissue.[4]

MOUTH BREATHING

Mouth breathing, produced by an obstruction of the nasal passage or by habit, may lead to gingivitis. It seems that the

causative mechanism is intermittent dehydration of the gingiva.[4, 21, 22, 23]

SMOKING

There is statistical evidence to show that tobacco is an irritating factor in "ulceromembranous gingivitis." Furthermore, there are data which show increased deposition of calculus among smokers when compared with non-smokers. The statistical evidence, however, of the relationship of tobacco to either of these conditions is not convincing.[24-27]

Joseph L. Bernier added the following:

"It must be understood that smoking is an act which involves several factors; it includes production of heat, trauma and irritating products from the combustion of tobacco. In this instance it is the effect of the combustion products of tobacco that are implicated."

CHEMICAL IRRITANTS

Some chemicals, such as the dusts and heavy metals which are encountered therapeutically or industrially, are known to produce effects on the gingival and oral mucosa, but this source of irritation has not been shown to be a primary factor in the production of periodontal disease.[28]

ROUGHNESS OF TEETH AND RESTORATIONS

Improper contours, roughness of the teeth, overhanging margins, or roughness of restorations all act as mechanical irritants and facilitate the accumulation of food and bacteria. Such irritation produces an inflammatory reaction and contributes to periodontal disease.[4, 29-32]

POOR INTERPROXIMAL CONTACT

Poor interproximal contact permits food impaction and may contribute to periodontal disease.[1, 4, 33, 34, 35]

MALPOSITION OF TEETH

Malposition of the teeth may increase the tendency for food and bacteria to accumulate at the gingival areas and produce irritating or toxic products. The gingival tissue associated with irregularly placed teeth frequently is subjected to increased injury by the toothbrush and other traumatic agents. The natural contours of a tooth which is malposed in the arch may not permit maximum protection to the adjacent soft tissues. Furthermore, malposed teeth may be subjected to abnormal functional stresses. The health of the periodontium, like that of other tissues in the body, is in part dependent on functional stimulation. Thus, decreased or excessive stimulation, as the result of malposition, may be detrimental to the health of the periodontium.[28, 36, 37, 38]

NATURAL ATTRITION

Natural occlusal attrition usually has beneficial effects since the occlusal wear reduces the amount of lateral stress.[4, 39-48] There is some controversy, however, regarding the possibility of increased lateral stress from the widening of the occlusal area.

OCCLUSAL TRAUMA

This Committee considers occlusal trauma to be related to a muscular force applied through the teeth which exerts an influence beyond the physiologic resistance of the periodontal tissues. The traumatic effect of the force depends on both its frequency and its magnitude. Another type of trauma which may be considered in an evaluation of occlusal trauma is the result of an imbalance of the pressure of the tongue and the retentive power of the musculature of the lips and cheeks. Although the literature presents conflicting statements about the role of occlusal trauma, a considerable

preponderance of evidence supports the conclusion that occlusal trauma should be accepted as a factor in periodontal disease. However, the evidence is conflicting as to whether or not occlusal trauma alone causes periodontal pockets.[1, 4, 49-62]

SPECIFIC BACTERIA

Many of the bacteria and other microorganisms present in gingivitis and periodontal pockets have been studied by stained smears, dark-field examination, aerobic and anaerobic culture and animal inoculation. These methods show that a wide variety of organisms are present in diseases of the periodontium. The organisms can be transferred to animals by injection of material from the diseased tissue and infection occurs only if the injected area is traumatized by the inoculating needle or otherwise injured as by the use of scarlet red. Attempts to set up similar infections in animals by combining pure cultures of the organisms involved have yielded negative results.

At the present time there is no conclusive evidence that particular organisms, either alone or in combination, are specific etiologic factors in the development of periodontal infections. The normal mouth flora apparently invades the periodontal tissues after some other pathologic condition has lowered the resistance of the gingiva to the microorganisms.[63-66]

MATERIA ALBA AND DENTAL PLAQUES

Chemical • No irritating chemical substances have been reported in these deposits, aside from the products of bacterial metabolism.

Bacteria • Products of the Bacterial Breakdown of Food Substances • A widespread impression has been that the breakdown of protein foods to neutral and alkaline products is more important in the etiology of some periodontal diseases than the breakdown of carbohydrates to acids. The experimental work of Berg, Burrill, and Fosdick would support this impression. They found that the saliva from patients experiencing periodontal disease broke down casein much more actively than the saliva from normal individuals.

The breakdown of protein to stable end-products involves many steps. A list follows of the organisms commonly found in the mouth which are capable of attacking one or more of the substances involved in this chain of reactions: some staphylococci, some bacilli, fusobacteria, vibrios and other anaerobic organisms. Other organisms intermittently present in the mouth which are active in the breakdown of proteins include *Escherichia coli*, *Bacillus proteus*, and pseudomonas (especially the species *Ps. pyocyanea*).

Among the chemical products of protein decomposition are some compounds which in sufficient amounts are toxic or irritating to some living tissues. They include indole, phenol, skatole, some of the amines, hydrogen sulfide and ammonia.

Irritating Products Developed by the Bacterial Cell • Mucolytic enzymes, such as hyaluronidase, which dissolve the cementing substance between cells, may be harmful to the periodontal tissues. There are other toxins such as hemolysin and leukocidin. However, the effect of some of these products against intact epithelium probably is not harmful.

The term "Schmutz-pyorrhea" indicates the extent to which deposits are associated clinically with periodontal disease. Pockets have been produced in animals by feeding soft diets containing adhesive materials. On the other hand, a study of one primitive Eskimo group showed that many of these people had soft deposits but no periodontal lesions.[67-80]

Summary • At present there is too little experimental evidence available to evalu-

ate the role of materia alba and dental plaques in periodontal disease. It appears that this role would be a fruitful field for further investigation.

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Report of evaluating committee III
Systemic factors in periodontal disease

The evaluation of the relative importance of systemic factors as etiologic agents in periodontal disease is complicated. It is difficult, or impossible, to complete well-controlled studies in man because of the universal presence of local irritants. Animal experiments have supplied facts, but the application of this evidence to man is presumptive. However, it would be pedantic to disregard this evidence and that which has accumulated through repeated, careful clinical observation.

It can be stated safely that in every individual, systemic factors influence the initiation and the course of periodontal disease and the maintenance of periodontal health. Ideally, these systemic influences are positive and beneficial; with adverse conditions, these influences are negative and may be highly destructive.

CHANGES IN PERIODONTAL TISSUES

Changes in the state of the periodontal tissues can develop independently of local irritation. These changes may occur in individuals with blood diseases such as anemia, polycythemia, agranulocytosis or thrombocytopenic purpura.[1-5] In leukemia, specific gingival changes have been shown histopathologically.[6,7,8] In acute myelogenous and acute monocytic leukemia, microscopic examination of the connective tissue may reveal immature white blood cells in excessive numbers. Some of the immature cells may show mitosis. The clinical appearance of the periodontal changes in the leukemias, however, is not distinctive.[9,10]

Although endocrines are recognized as affecting tissue metabolism, direct evidence of their relation to periodontal disease is meager.[11] Probably the most readily demonstrable effect is the loss of alveolar process (along with other bone) sometimes observed in hyperparathyroidism.[2,8,12] Diabetes mellitus often is cited as a cause of periodontal disease but the evidence indicates that the chief effect of diabetes mellitus is the deleterious influence which it may exert on the course of the disease.[13,14] There are no published reports available on the use of ACTH or cortisone in the treatment of periodontal disease. The administration of cortisone to normal white mice revealed the following changes: (1) osteoporosis of alveolar process characterized by pronounced reduction in osteoblastic activity, (2) capillary dilation and hemorrhage in the periodontal membrane and gingival tissues, and (3) reduction in the number and degeneration of the collagen fibers of the periodontal membrane.[15] If imbalances of sex hormones occur during puberty, menstruation, pregnancy, and the climacteric, changes in the gingivae and the oral mucous membranes may be demonstrated.[16-19] Clinical and laboratory studies of groups of patients with periodontal disease have not, as yet, produced conclusive evidence of an etiologic correlation between the periodontal disease and the hormonal imbalances.[20-23] It is probable, however, that

some hormones influence the initiation or the course of periodontal disease.

NUTRITIONAL FACTORS

Nutritional factors are essential for the development and maintenance of body tissues. Experimental studies have shown that deficiencies of such factors as vitamin C, protein, and minerals, and excesses of substances such as vitamins D and A may influence periodontal tissues adversely.[24-32] Although many studies have been reported, for the most part they are neither critical nor adequate.

Vitamin C deficiencies definitely influence the course of periodontal disease as shown by animal experimentation[33-36] and, for gingival tissue, by human experiments. The general status of vitamin C nutrition can be ascertained by plasma and leukocytic, vitamin C determination.[37-40] The effects of other specific nutritive factors have been discussed,[41, 42, 43] and reports of animal experiments are available which indicate that extreme depletion of many nutritive factors affects the periodontium adversely.[44] Dietary analyses have revealed no correlation between the intake of food elements and periodontal disease with the possible exception of calcium.[45] An inverse relationship has been reported to exist between the intake of calcium and the severity of the periodontal disease.

OTHER FACTORS WHICH INFLUENCE GINGIVAL CHANGES

Evidence in the form of family histories of cases has shown that genetic factors influence the development of one type of gingival change; namely, hereditary gingival fibromatosis.[46, 47]

The claim that psychosomatic factors influence gingival disease has not been substantiated. The psychosomatic factors constitute one area of investigation in which there is a particular need for studies under well-controlled conditions.[48, 49, 50]

Studies of the relation between acute and chronic infectious diseases and periodontal diseases indicate that the relationships are either direct and local (stomatitis) or a part of the general condition of dehydration and debilitation.[51, 52, 53] Such general effects may influence the initiation or progress of periodontal disease.

The accumulation of heavy metals and blood-borne particulate matter in the oral tissues requires the prior existence of inflammatory changes.[54, 55, 56]

There is no available evidence of a systemic influence of intoxication by barbiturates, opium, cocaine, or alcohol on periodontal diseases except the secondary effect produced by debilitation and by nutritional deficiencies.

Complete examination of the patient to evaluate the possible role of systemic disease should include a history, physical examination, and laboratory studies. Routine physical examination of patients with periodontal diseases has not thrown any light on the general problem of the etiology of periodontal diseases.[57-63] Most studies of this type, however, have been inadequate or based on too few cases to be significant. More deviations from the normal blood ranges were found in groups of patients with periodontal diseases than in a normal control group on whom identical blood chemical studies were performed. This finding, coupled with the narrow range of individual deviations observed, suggests that one or more subclinical systemic conditions were associated with periodontal disease in many of these subjects. Since the deviations observed were apparently unrelated to each other, it does not appear that a common systemic condition modifies or predisposes to periodontal disease.[60, 64, 65]

Scientific evidence has established that bacteremias may result from periodontal lesions.[66-72] The evidence is presumptive that periodontal lesions represent potential dangers in the spread of oral infection to remote sites. Whether any individual

periodontal lesion may be a focus of infection is difficult to establish, but the fact that such a lesion may become a focus emphasizes the importance of eradication of all such regions.

Gingival enlargements often are cited as examples of the influences of systemic factors on oral tissues. These enlargements may be caused by the administration of diphenylhydantoin sodium to persons with epilepsy,[73,74] the influence of sex hormones in puberty and pregnancy,[16,75] and the leukemias.[6] The mechanism of diphenylhydantoin sodium hyperplasia is difficult to explain, but its specific gingival effect is dramatized by the disappearance of the enlargement from the mouth after the extraction of the associated teeth.

Several forms of gingivitis have been observed in pregnant women.[17,18] By macroscopic and microscopic criteria, each of these forms is indistinguishable from certain conditions which have been observed in nonpregnant women and in men.[20] Hence, there appears to be little justification for considering gingivitis during pregnancy as a distinct pathologic entity. Evidence indicates that the pregnant state provides factors, presumably hormonal, which in some women appear to accelerate and modify the development of gingival changes. Limited studies suggest that some forms of gingival change may occur during pregnancy in the apparent absence of local irritating factors.

SUMMARY

Systemic influences affect all periodontal disease. The extent of such influence on the initiation, extension, localization, course, and termination of periodontal diseases requires intensive study. The relation of these systemic influences and inevitable local factors must be determined by clinical and laboratory investigation under controlled conditions.

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Report of evaluating committee IV
Treatment of periodontal disease

Although the ultimate objective of periodontal treatment is to reestablish normal physiologic processes within the periodontal tissues, the attainment of that objective is at times no simple procedure. So many factors are involved, some of which are little understood, others rarely recognized, that the periodontist is frequently called on to employ not one or two but every means at his disposal to obtain the desired result.

ROLE OF HOME CARE AND PROPHYLAXIS

In the treatment of periodontal disease what is the role of home care and prophylaxis—gingival massage and toothbrushing?[1-14]

The role of home care and prophylaxis in periodontal treatment cannot be overemphasized. They are necessary not only as treatment but as preventive measures. A survey of opinion as expressed in the literature indicates that gingival stimulation is beneficial.

SUBGINGIVAL CURETTAGE AND GINGIVECTOMY

In the treatment of periodontal disease, what is the role of subgingival curettage and gingivectomy?[15-25]

The role of subgingival curettage in the treatment of periodontal disease is to secure reattachment with production of a sulcus of minimal depth. This reattachment is most likely to occur in the basal portion only. The resultant architecture should be physiologic.

The role of gingivectomy in the treatment of periodontal disease is (1) in cases of gingival and periodontal pockets of hyperplastic origin, and (2) in cases of intrabony pockets not amenable to successful treatment by subgingival curettage.

Henry M. Goldman has added the following note: "Clinical recession after subgingival curettage may be expected. Thus a wide range of outcomes exists postoperatively, from no reattachment and pronounced recession to considerable (3 mm.) reattachment and little recession. Decisions to perform subgingival curettage and gingivectomy are made on the basis of the character of the gingiva."

SPLINTING AND REPLACEMENT OF TEETH

In the treatment of periodontal disease, what is the role of fixed and removable splinting and replacement of missing teeth?[11, 12, 26, 27, 28]

Splinting in the treatment of periodontal disease has the primary role of stabilizing teeth in order to enhance potentialities for repair and to retard breakdown caused by mobility. It also serves to (1) restore and maintain lost contacts and prevent impaction by food, (2) reshape crowns to better mechanical advantage, (3) aid in replacing missing

teeth, (4) aid weakly supported teeth by providing additional support from adjacent stronger teeth, (5) prevent drifting and extrusion of teeth, (6) correct relationships of teeth and jaws as well as occlusal relationships and (7) stabilize teeth during gingivectomy.

Fixed splints are preferable to removable splints. So-called fixed removable splints are to be discouraged for teeth with periodontal involvement. It should be pointed out that even complete fixation by splinting from one end of the arch to the other still allows functional movement of individual splinted teeth in order to maintain health.

The role of replacement of missing teeth in the control of periodontal disease is to (1) prevent drifting and wandering, (2) prevent tilting, (3) prevent loss of contact, (4) prevent impaction of food, (5) prevent change of vertical dimension, (6) prevent extrusion, (7) prevent occlusal trauma and (8) distribute properly the stresses of mastication.

ROLE OF DRUGS

In the treatment of periodontal disease, what is the role of drugs?[14,29-46]

There are relatively few diseases of the periodontal tissue which are amenable to specific therapy by drugs. Drugs may be used as adjuncts to periodontal treatment but it always must be remembered that drugs are only an aid to thorough periodontal therapeutics and not cures in themselves. Drugs may be used to advantage (1) in minimizing or controlling pain associated with periodontal treatment; (2) as disclosing solutions; (3) in treating hypersensitive dentin, and (4) as constituents of gingival packs in surgery.

By a vote of 18 to nine, Committee members decided that the routine use of caustics in periodontal treatment is not indicated.

Antibacterial drugs can be used to advantage in combating acute infectious phases of some types of periodontal diseases. Antibiotics, particularly penicillin, aureomycin and perhaps chloromycetin and terramycin, have been found to be effective in treating the acute phase of periodontal infection. Unfortunately, the possibility exists of sensitization of the patient to these agents and the development of refractory bacterial strains if inadequate dosage is used. This frequently occurs when therapy by lozenges or troches is employed. Since many untoward reactions have been noted following such therapy, the prescription of any potentially injurious drug to be used by the patient without supervision should be discouraged.

ROLE AND OBJECTIVES OF OCCLUSAL ADJUSTMENT

In the treatment of periodontal disease, what is the role and objective of occlusal adjustment?[47-51]

The objective of occlusal adjustment in the treatment of periodontal disease is to obtain the maximum achievement of an acting mechanism of contacting teeth which, in function, distributes the resultant stresses in a manner physiologically acceptable to the periodontium. Such an objective demands the simultaneous contact of all teeth in centric relation and the simultaneous contact of the optimum number of teeth in order to distribute the resultant forces in all movements physiologically.

Clinical evidence indicates that the adjustment of occlusal force favors the healing of periodontal disease.

ORTHODONTIC PROCEDURES

In the treatment of periodontal disease, what is the role of orthodontic procedures?[52-56]

Orthodontic procedures serve as adjuncts to periodontal treatment. Their use is directed (1) toward the correction of the position of one tooth or multiple

teeth in the arch, (2) toward the adjustment of maxillomandibular relationships and (3) toward the retention of favorable occlusal relations. From a review of the literature, opinion appears unanimous that orthodontic procedures should be used more frequently in conjunction with periodontal treatment. A closer working relationship between the periodontist and orthodontist, hence, is advocated.

TREATMENT OF INTRABONY POCKET

Should the so-called intrabony pocket be treated differently from the periodontal pocket?[18, 57-71]

The intrabony pocket and the periodontal pocket are of distinctly different patterns. The disturbance of the topographic arrangement of the component tissues of the periodontium which leads to an abnormal depth in a pocket, is different for the two types. The gingival pocket usually can be treated successfully by reducing the swelling in the enlarged gingival mass. Reduction of the swelling of the free gingival mass associated with an intrabony pocket or even the removal of the free gingival mass would reduce the depth of the usual intrabony pocket only slightly.

CURETTAGE OF INTRABONY POCKET

What is the purpose of and indication for curettage in the treatment of the intrabony pocket?

The purpose of curettage in the treatment of the intrabony pocket is to eliminate the pocket by reattachment. The indications for its use in the intrabony pocket are (1) that local and systemic conditions already are favorable to successful healing or can be made so, (2) that narrow pockets exist since they are more likely to respond favorably to this treatment than broad pockets and (3) that a period of clinical experience has assured the operator that curettage, following the reduction of an acute periodontal abscess is likely to be productive of an excellent healing.

BONE REMOVAL IN TREATMENT OF INTRABONY POCKET

Why and when is bone removed to eliminate the intrabony pocket?

Bone is removed if reattachment cannot be achieved and if employment of the principle of "production of recession" is the only choice other than extraction of the tooth.

PRECEDING TREATMENT

Should any local treatment precede subgingival curettage or gingivectomy.[21, 72, 73, 74]

This answer will confine itself to local measures solely. The role of systemic therapeutics will be considered under the title of drugs. Curettage as here used means conservative procedures and, also, the flap operation.

An appraisal of the available scientific literature indicates that presurgical scaling, polishing and packing promotes more rapid healing and a reduction in the amount of hemorrhage at the time of the operation.

LEVEL OF BONE

Is there a definite level of loss of bone which determines whether teeth can be treated successfully?[75, 76]

There is no definite level of loss of bone which determines whether teeth can be treated successfully. Any prognosis, however, becomes less favorable as the level of bone recedes.

BIFURCATION AND TRIFURCATION INVOLVEMENT

Could and should teeth with involvement of the bifurcation or trifurcation be treated?[77, 78, 79]

Involvement of the bifurcation is difficult to treat and hence prognosis is unfavorable. Conservative treatment should be employed only if the resulting form of the healed attachment allows effective oral hygiene.

IMPORTANCE OF PHYSIOLOGIC GINGIVAL ARCHITECTURE

What is the importance of a physiologic gingival architecture in the successful treatment of periodontal disease?[80]

The production of a physiologic gingival form will aid materially in maintaining the health of gingival tissues. The objective should be the deflection of food away from the gingival margin by the contour of the enamel.

TIME OF TREATMENT[11, 12, 81-94]

Should periodontal treatment precede or accompany restorative procedures?

Since the question of whether restorative procedures should precede or accompany periodontal treatment is dependent on variables that make it impossible to be definite or specific, the Committee has dismissed the question.

CURE OR CONTROL BY LOCAL OR SYSTEMIC TREATMENT

Can periodontal disease be cured or controlled by local treatment alone in the presence of systemic disease? Can periodontal disease be cured by systemic treatment alone?

When periodontal pathosis accompanies systemic disease, the degree of participation of the constitutional factors and the degree of participation of the extrinsic or local factors govern the course of treatment. It may be said, therefore, that local treatment alone or systemic treatment alone sometimes controls or palliates some periodontal lesions but, because of the present inadequate and controversial data, neither can be considered as a completely curative measure.

ROLE OF ORAL HYGIENE

In the treatment of inflammatory hyperplastic gingivitis what is the role of good oral hygiene and should gingivectomy be utilized?[95-98]

In the treatment of inflammatory hyperplastic gingivitis, following necessary prophylactic procedures, good oral hygiene should be instituted by the patient. The removal of irritants and improvement in circulation will tend to reduce the hyperplastic tissues to a normal physiologic architectural form. If the tissues are fibrotic or the desired gingival form is not obtained by conservative therapy, gingivectomy should be utilized.

TREATMENT OF VINCENT'S INFECTION AND HERPETIC GINGIVOSTOMATITIS

What is embodied in a satisfactory treatment of Vincent's infection and acute herpetic gingivostomatitis?[11, 12, 34, 46, 99-102]

Satisfactory treatment includes relief of pain and distress; return of tissue to normal position, contour and consistency; and prevention of recurrence.

These outcomes can be accomplished by thorough removal of all local factors and débridement of necrotic tissue; correction of predisposing etiologic factors—for example, nutritional inadequacy; thorough instruction in and supervision of procedures of home care; reshaping of deformed tissues by periodontal procedures, if necessary; and observation and re-checks to prevent recurrence.

A satisfactory treatment of acute herpetic gingivostomatitis embodies relief of painful local lesions and systemic distress associated with the primary herpetic infection, and prevention of recurrent herpetic lesions associated with periods of lowered resistance.

There is some scientific evidence to show that aureomycin, when administered

during the early stages of the disease (up to perhaps 12 hours after the first symptoms), will alleviate the severity of the disease. After the condition has become thoroughly established, however, the treatment is limited to palliative and supportive treatment to make the patient more comfortable. Every effort must be made to prevent the spread of the infection to other susceptible individuals.

COMPLETE PERIODONTAL TREATMENT

What constitutes complete periodontal treatment?

Elimination of pathologic changes and reestablishment of normal physiologic processes within the periodontal tissues are the main objectives of complete periodontal treatment.

The requisites of successful treatment are the establishment of gingival health as indicated by the existence of a gingival sulcus which approximates zero in depth and a physiologic gingival architecture. An intact lamina dura should be present roentgenographically and the alveolar crest should be cortical in nature. All teeth should be physiologic in function.

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Report of evaluating committee V
Prevention of periodontal disease

Although observations regarding the prevalence of periodontal disease vary considerably among those who have studied the subject, researchers agree that the condition is found far too frequently among children and that it is almost universal among adults. The dental profession, then, is confronted not only with the responsibility of successfully treating the disorder but is charged with the problem of initiating measures that will prevent the condition.

PREVENTIVE MEASURES

What procedure should the dentist employ to prevent the development of periodontal disease for the person who has never experienced periodontal disease and for the person who has been treated successfully for periodontal disease?[1-8]

The program to be instituted for the care of a patient without periodontal disease should consist of the following:

1. Comprehensive medical and dental history.
2. Thorough clinical examination to evaluate the color, texture, and contour of the gingiva and careful probing of the gingival sulcus to determine the normal depth for the specific patient.
3. Complete roentgenographic survey to determine any change from the accepted normal in the alveolar bone and teeth and any discrepancy in or need for restorative treatment to prevent injury to the periodontium.
4. Careful analysis and correction of any abnormality of occlusion.
5. Comprehensive instruction to the patient in the proper use of specific technics for the care of the teeth and investing tissues.
6. Advice regarding an adequate diet and the correction of any untoward habits which might be contributory to the development of periodontal disease.
7. Periodic recall and evaluation of the effectiveness of the foregoing procedures with special emphasis on the need for securing the intelligent cooperation of the patient.

The care and maintenance of periodontal health of the patient successfully treated for periodontal disease consists of the foregoing procedures, and careful evaluation of the effectiveness of previous treatment and professional supervision at more frequent intervals.

ROLE OF NUTRITION IN PREVENTION

In the prevention of periodontal disease, what is the role of nutrition?[9-35]

It must be understood that the term "nutrition" implies more than dietary intake.[15] It is generally accepted and has been stated that nutritional inadequacy may result from various environmental conditions and bodily states that interfere with ingestion, absorption, or utilization of essential nutrients or from factors that increase the requirement or cause the destruction or abnormal excretion of those

nutrients.[13] The factors affecting absorption through the gastrointestinal tract and utilization at the cellular level are legion[13, 14] and are clearly not within the scope of this report.

From the available scientific literature the conclusion may be drawn that, in general, the nutritional status of the individual is a most important predisposing or conditioning factor in the development of periodontal disease.[9, 11, 12, 16, 17, 18, 20, 22, 26, 32] The reaction of the periodontal tissues, as of all tissues, to local irritative or exciting stimuli will be modified by the quality of the metabolic activity of the cells.[9, 10, 16, 17, 18, 20-23, 26, 32, 35]

It is of primary importance to have present those nutrients necessary for the efficient performance of this metabolic activity, so that they may enter directly into the metabolic reactions or affect the reaction indirectly as catalysts, enzymes, or co-enzymes.[10, 15, 21, 25, 28, 33, 35]

A local irritant, by causing an inflammatory response, alters tissue metabolism.[27] The ability of the tissues to resist the irritant, to mobilize defenses, and to repair the injury depends on the existing state of metabolic efficiency which is a function of nutrition.[9, 21, 29]

It is established on the basis of considerable evidence that in the prevention of periodontal disease all essential nutrient factors in adequate amounts may be necessary.[15, 19, 21, 22, 24, 26, 30, 31, 32] No single vitamin, or combination of several vitamins or minerals, can be singled out as being uniquely responsible for the maintenance of periodontal health.[15, 19, 22, 26, 32]

ROLE OF PHYSICAL CHARACTER OF DIET

What is the role of the physical character of the diet in the prevention of periodontal disease?[36-39]

A survey of the available literature indicates that there have been no convincing studies reported to show that the physical character of the diet bears a proved relationship to the prevention of periodontal disease. No reports extolling the virtue of a soft diet were found; there were many reports, however, stating that coarse diets were beneficial to the health of the periodontium. None of these reports presented conclusive scientific evidence to substantiate these benefits.

A few studies have been conducted without using controls.[36] Some studies contained conclusions which were drawn from inadequate numbers of experimental subjects.[37] In other studies, variables were included which may have influenced the conclusions.[38] No valid index has been used to evaluate the periodontal status of primitive peoples. The physical character of the diet of primitive peoples often has been reported to be conducive to periodontal health.[39] There is urgent need for scientific investigations to increase this area of information.

ROLE OF HOME CARE

In the prevention of periodontal disease, what is the role of home care?[24, 40-56]

Home care is the use of practical procedures by the individual to promote and maintain oral hygiene. A review of the literature indicates that the polishing of all exposed tooth surfaces—thus retarding the accumulation of debris—aids in the prevention of periodontal disease, as does stimulation of gingival tissues. These procedures can be carried out in several ways; the method usually recommended is the correct use of the toothbrush, together with other adjuncts, including dentifrices and mouthwashes.

The Council on Dental Therapeutics of the American Dental Association has stated: "The use of a dentifrice which aids in the removal of bacterial accumulation at the gingival sulcus may be beneficial to the gums because of its cleansing action. The therapeutic effect of its ingredients is doubtful." The Council has reported further: "Routine and indis-

criminate use of some dentifrices containing phenolic compounds of oxidizing agents may result in serious chronic irritation of the oral mucosa."

The Council also has stated: ". . . the mouth of the normal person has not been shown to be in need of medicated 'mouthwashes,' that is, 'mouthwashes' that contain ingredients with active and medical properties, such as astringents, protein precipitants and germicides."

The technic of choice will depend on the needs of the individual.

Regarding an investigation of mouthwashes, Crowley and Rickert[49] have stated: "Some may reduce oral flora temporarily but due to their strength may cause oral irritation."

COMMUNICABILITY

Insofar as communicability is concerned, what is the status of Vincent's infection and herpetic gingivostomatitis?[57-66]

In order to understand the question as submitted, a definition from the twenty-second edition of Dorland's medical dictionary is quoted: "Communicable—capable of being transmitted from one person to another."

Fusospirochetal organisms are associated with Vincent's infection. However, the Koch postulates cannot be fulfilled in establishing these organisms as the etiologic factor. In 1945, the Research Commission of the American Dental Association[59] reported: "It [Vincent's infection] is probably not communicable and there seems to be no clear or convincing direct or other evidence of the alternative."

A review of the literature from 1945 through 1950 indicates that no research has been reported which would alter the conclusions reached by the Research Commission. At the present time, Vincent's infection cannot be considered communicable.

A review of the literature demonstrates sufficiently that herpetic gingivostomatitis is caused by a virus and is communicable.

PREVALENCE OF PERIODONTAL DISEASE

How prevalent is periodontal disease at various age levels?[30, 67-73]

A review of the literature indicates that gingival disease is prevalent among children and almost universal in adults. More advanced periodontal disease is common in the adult population, and the prevalence increases with age. A few reports can be found which discuss the prevalence of periodontal disease, but the observations vary considerably. The status of information on the subject has been expressed aptly by Marshall-Day: "Probably the chief reasons for the paucity of reliable epidemiological data on periodontal disease are the lack of a satisfactory system for examination and accurate diagnosis, and the absence of uniformity in methods employed in the assessment of the disease in its various forms."[72]

EVALUATION INDEX

Can a valid index be established, based on objective observations, which will evaluate the gingival or periodontal status of individuals and of population groups?[30, 31, 74-78]

The lack of valid indexes for determining the prevalence and epidemiological characteristics of periodontal diseases has hindered seriously the development of more effective preventive and treatment procedures for these diseases.

Definite progress in the development of an index for determining the prevalence of gingival disease has been made during recent years. King,[74] on the basis of his clinical experience, suggested that examinations limited to the anterior gingival areas of a population group would provide an accurate estimate of the prevalence of gingivitis in the group. Schour and Massler[30, 31, 75] refined this suggested method by adapting more specifically defined criteria for its application and

scoring. In a clinical study[71] they demonstrated that the index was effective in discovering 92.5 per cent of cases with gingivitis. In only 7.5 per cent of cases were the posterior gingival tissues involved, with the anterior gingival tissues normal. The index was tested against complete clinical examinations of 804 children aged 5 to 14 years. Schour and Massler[71,75] termed it the "P-M-A index" (papillary, marginal, attached) in accordance with the characteristics of the gingiva described by Orban.[75] By means of a numerical system of scoring the relative extent and severity of gingivitis, the index served as an accurate guide for the gingival status of individuals as well as for the group. The index is in the early stages of development, however, and should be subjected to further testing in order to determine its validity and the comparability of the results obtained by different examiners.

The only survey technic found in the literature for determining the prevalence of periodontitis and periodontosis was limited to intraoral roentgenograms. This technic, partially adapted from Sheppard,[77] was utilized by Marshall-Day.[78] The accuracy of the method as an index has not been validated inasmuch as the roentgenographic diagnoses were not checked against complete clinical examinations. It would seem that indexes for determining the prevalence of periodontitis and periodontosis are in the early developmental stages and, hence, that more research is required before they can be utilized.

ROLE OF PUBLIC HEALTH DENTAL PROGRAM

What, specifically, can a public health dental program do for the prevention of periodontal disease?

1. Promote a dental health education program among the health professions and the public emphasizing the importance of home care, adequate nutrition, periodic dental examinations and care in the prevention of periodontal disease. This program should place particular emphasis on the training of physicians, dentists, nurses and hygienists—both at the undergraduate and postgraduate levels—in the recognition and correction of oral conditions which predispose to periodontal disease.

2. Promote research concerning the epidemiology of periodontal diseases and encourage the development of indexes for evaluating the periodontal status of individuals and of population groups. Furthermore, the effects of periodontal health on the physical well-being of the individual should be evaluated.

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Cases and Comments

CONGENITAL PITS ON THE VERMILION PORTION OF THE LOWER LIP: REPORT OF CASE

By William J. Carter, D.D.S., M.S., and Ralph C. Johnson,† D.D.S., Great Lakes, Ill.*

The patient was a 20 year old Navy recruit. Routine dental examination revealed two large secreting pits on the vermilion portion of the lower lip, symmetrically located, one on each side of the mid-line (illustration). The patient reported that this condition of the lower lip was present also in his mother and his maternal grandmother. An older brother, also in training at this station, did not possess this defect.

Clinical Examination • With the exception of rampant caries of the teeth, the patient's oral condition appeared normal. The dorsal portion of the hard palate was soft to palpation indicating that the maxillary bones were not completely ossified. The soft tissue fissure separating the palate, although intact, was perceptibly grooved with no communicating fistula.

The pits were elliptically shaped, and had a mesiodistal diameter of approximately 6 mm. Examination of the tracts, showed the left one to be 17 mm. in depth and the right one only 12 mm. in depth. Further exploration did not reveal any lateral or extended communications within each tract or between the two tracts. Beads of secretions having the consistency of mucous type of saliva appeared periodically at the orifice of each tract, and seemed to accumulate more rapidly before and during mealtime. Attempts to stimulate the flow of this secretion by the use of weak acetic acid, and later by chewing wax, failed.

Roentgenographic Examination • Each pit was injected with Lipiodol and roentgenograms were taken which revealed that the tracts terminated within the soft tissue of the chin.

Treatment • Since the patient had no discomfort other than "chapping" and "crusting" over of the orifices of these pits, no treatment was instituted. Plastic repair was suggested, but was not acceptable to the patient.

The opinions or assertions contained in this article are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

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Left: Close-up of lower lip showing normal condition of pits. Right: Orifices of pits opened by blasts of compressed air

INCIDENCE OF UNSUSPECTED FRAGMENTS IN ROUTINE POSTOPERATIVE ROENTGENOGRAMS

By Irving M. Sheppard, D.D.S., New York

The appearance of an occasional fragment of amalgam or perhaps a root fragment in a series of routine full mouth roentgenograms raises questions such as: Was this fragment left unwittingly and could it have been avoided by taking routine postoperative films? Was it known to be present and left because of extenuating circumstances?

Postoperative roentgenograms were taken in a series of 100 exodontia cases where a clinically complete tooth or teeth had been removed and where ordinarily there would be no need for roentgenographic investigation. Two instances of unsuspected fragments, one of amalgam, the other of bone, were found (see illustration). Uneventful healing might well have taken place in both instances and nothing would have shown at a later date except the amalgam which would have appeared in subsequent roentgenograms.

It would seem from this series of cases that roots left in operated areas were known to be there at the time of operation and were left perhaps for good reasons. Unattached bone fragments in all probability resorb or exfoliate. Amalgam pieces, however, may remain in a socket and, for years to come, appear in roentgenograms taken of the region.

Although only 2 of 100 patients were helped specifically by the routine taking of postoperative roentgenograms, all of the patients were relieved to know that there was no possibility of fragments of roots remaining despite the cracking sounds they had heard during the removal of the teeth. In addition the legal value of such films is obvious in the event that there is delayed healing, paresthesia or subsequent infection.

Roentgenograms taken routinely following surgery are of value because (1) They reveal amalgam fragments that might otherwise be retained and loose bone fragments that might delay healing. (2) They assure the patient that no roots remain despite the cracking sounds they had heard. (3) Legally they are of use to show that adequate care had been taken.

5 East Fifty-seventh Street

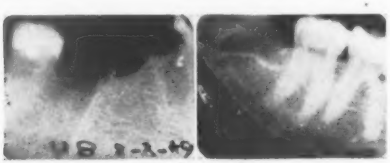


Illustration • Left: Routine postoperative film showing amalgam fragments. Right: Postoperative film showing bone fragments

PARESTHESIA OF THE LOWER RIGHT LIP RESULTING FROM PRESSURE OF THE LOWER FULL DENTURE ON THE MENTAL NERVE AND FORAMEN

By Benjamin Siegel, D.D.S., New York

The patient was a 42 year old man who complained of inability to wear his full lower denture because of pressure on the lingual frenum. The full upper and lower dentures had been constructed 10 years earlier. The patient was able to wear the lower denture again after it had been relieved in the area of pressure. Two days later, however, he reported an abnormal sensation in the lower right side of the mandible.

The paresthesia, resulting from impingement on the mental nerve, was increased by digital pressure applied to the area. Bilateral roentgenograms indicated that the right mental foramen was located on the superior surface of the mandibular ridge (illustration).

The paresthesia disappeared in two weeks after the patient discontinued wearing the lower denture.

149 West Sixty-seventh Street

DEMONSTRATION OF VALUE OF PRESERVING CERTAIN THIRD MOLARS FOR FUTURE USE

By Jack F. Cathcart, D.D.S., Berkeley, Calif.

A male patient, 16 years old, was first seen June 17, 1946. He complained of tenderness and occasional swelling in lower right molar area. His general physical condition was not satisfactory and there had been recent loss of weight.

Full mouth roentgenographic examination disclosed a large cyst or abscessed area in the region of lower right first and second molars and a large mesioocclusal amalg..... restoration in the first molar which encroached on the pulpal horn. The crown of third molar was completely developed and mesially inclined toward the distal root of the second molar. The diagnosis was a large, chronic, apical abscess involving the first and second molars, caused by the pulpal death under the restoration of the first molar.

The plan of treatment involved removal of the first and second molars and thorough curetting of the infected region. Great care would have to be taken not to traumatize or endanger the developing third molar, since if this third molar could be preserved, it might be brought into proper alignment and position and be used in the future as a posterior molar abutment. This would restore proper occlusion and function in this area of the mouth. Preservation of a normal occlusion without a removable restoration was important since the patient was expecting to become an officer in the United States Navy, and the loss of occluding molars in one area of his dentition would be a serious deterrent to passing a physical examination for such a position.

A partial unilateral lower denture was placed as soon as postoperative shrinkage and bone regeneration of the abscessed area occurred. The prosthesis was a saddle denture with a lingual bar and a crib clasp on the left side for stability. This partial lower denture was designed for a two-fold purpose: (1) to keep the upper first and second molars in function and correct alignment, and (2) to act as a guide for the correct positioning and alignment of the erupting third molar. The distal surface of the saddle being plastic, it was possible to check the contact with the erupting third molar, and the saddle could be extended or reduced as circumstances warranted, so as to obtain the most favorable positioning of this tooth.

The case was completed by placing a loose-end type fixed bridge in November 1951. A full cast crown on the third molar was used

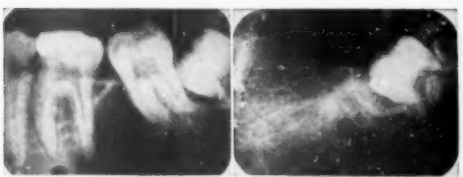
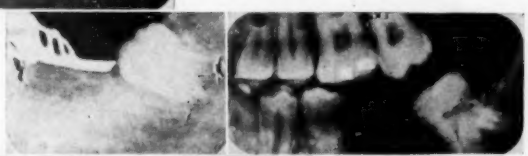
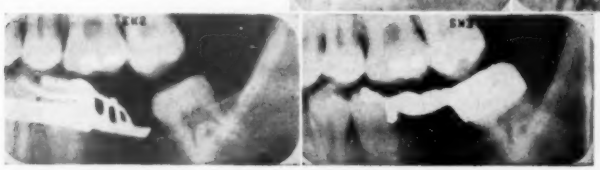


Fig. 1 • Upper left: June 1946. Intraoral roentgenogram showing first and second molars and the abscessed or cystic region. Right: August 1947. Postoperative roentgenogram showing bone regeneration in first and second molar region. Extractions had been performed in June



Center left: June 1948. Partial lower denture in position. Right: April 1950. Third molar has nearly erupted into correct occlusion



Lower left: November 1951. Right posterior area showing third molar fully extruded. Right: Posterior area showing the completed fixed bridge

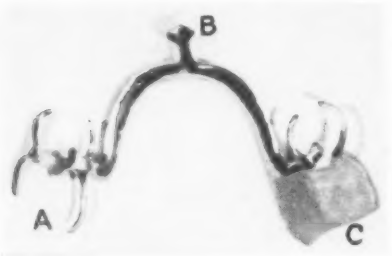


Fig. 2 • Temporary partial lower unilateral removable denture. A: Retention clasp. B: Anterior stabilizing rest. C: Distal area of acrylic saddle cut away as third molar erupted

as abutment. The crown carried a cast gold sanitary bar pontic with a lug stop which rested in a distoocclusal inlay in the second bicuspid. The bridge has been comfortable and has functioned excellently.

701 American Trust Building

HEREDITARY APLASIA OF THE ENAMEL IN 13 MONTH OLD CHILD: REPORT OF CASE

By Jerry W. Adams, D.D.S., Putnam, Conn.

Few cases of hereditary aplasia of the enamel have been reported, especially in children.

A 13 month old female child was referred by her family physician because of inflammation of the gingiva labial to the deciduous mandibular incisors. Examination revealed that the two deciduous mandibular incisors appeared as smooth rounded stubs, brownish in color and completely devoid of enamel. A mild inflammation was evident labial to the deciduous left mandibular incisor which appeared to be caused by local irritation. The deciduous mandibular lateral incisors had erupted further than the central incisors. The deciduous maxillary incisors and the four deciduous first molars were erupted and devoid of enamel.

Two weeks later a parulis formed on the labial aspect of the mucosa in the region of the deciduous left mandibular incisor. A roentgenogram was obtained despite lack of patient cooperation (illustration). The deciduous left central incisor was extracted under nitrous oxide anesthesia.

The condition apparently was hereditary and had occurred in her father, two uncles and her grandfather. This was the first female so affected, however, since her great grandfather's sister, 102 years before. One aunt and one uncle on the paternal side have normally formed enamel.

64 Grove Street

SINGLE EXPOSURE FOR 35 MM. CAMERAS

By Israel Nathanson, D.D.S., Philadelphia

Cameras of 35 mm. design can be adapted for use as a single frame film-holder camera. In addition to a holder, a guide is required to permit cutting the cartridge film in the dark to fit the holder.

The window is made from a dental roentgenograph mount (77 by 128 mm.) with a single opening (38 by 28 mm.). One-half of the width of the window is marked on each side to indicate a midline. Lines are drawn across the mount 18 mm. above and below the midline of the window. The mount is then cut along these lines, reducing the width to 36 mm. and leaving the length unchanged.

A distance of 22 mm. is measured off on the length of the mount to the right and left of the midpoint. The staples are removed and stitched into place on lines marked along these points. The mount is cut at a point one-half inch from the two stitched lines, which serve to hold the celluloid backing in place.

In trying the holder in the camera, bending of the sides will usually occur on the stitched lines. On one side of the camera, the bend will be engaged between the film exposure guide wheel and the outer wall of the middle chamber. The other end is bent so that it will also be engaged between the take-up chamber and the outer wall of the middle chamber on

the opposite side. It is helpful to notch the top of one of the bent sides of the film holder to permit its replacement in the same position. Also, a small piece of the celluloid backing is removed below the upper edge of the holder to facilitate the placing of the film.

The next step is making the guide which allows the film to be cut from the cartridge to the correct size of the holder. A piece of stiff box paper (112 by 32 mm.) is used. Points are measured off along the length at 44 and 88 mm. from one side and lines are drawn. The paper is bent at the 44 mm. point and glued. At the 88 mm. point the bend is made in the opposite direction.

In the darkroom, about three inches is first cut from a new roll of 35 mm. cartridge film. This eliminates the portion of film which would have been taken up by the spool in loading the camera. The film is slipped into the guide. Held in place by the bent flap, the film is cut at the other end of the guide. The cut film is now slipped into the holder and positioned in the camera. The remainder of the film is kept in a screw top metal container which in turn is placed in a larger container. The single film is now ready for exposure. During the process of developing the exposed film, an additional length is cut, inserted in the holder, and placed in the camera for further use.

This method for adapting 35 mm. cameras for single film use has the advantage of eliminating the waiting period until the complete roll of film has been exposed. It also cuts down the waste of film resulting from removal of an incompletely exposed roll.

2711 North Eleventh Street

Industrial Medicine Helped • Longevity among American wage earners and their families increased to a new high in 1951, with expectation of life at birth rising to 68.5 years, according to Louis I. Dublin, Ph.D., chief statistician of the Metropolitan Life Insurance Company. This is a gain of about one-fifth of a year over the 1950 figure. Since the latter part of the 19th century, expectation of life at birth has doubled in the industrial population. Among Metropolitan's industrial policyholders, average length of life has increased by five years in the past decade, and by 10 years since the early 1930's. The gains are attributed by Dr. Dublin to more healthful living and working conditions, better food, and to the outstanding gains in medical science and public health administration. *J.A.M.A. March 8, 1952.*

COUNCIL ON INSURANCE

American Dental Association Accident and Health Plan

The Council on Insurance is pleased to announce, with the approval of the Board of Trustees, an Accident and Health Plan which shortly will be offered to our members.

On September 1, 1952, each member will receive an announcement giving complete particulars as to the enrollment procedure and it is hoped that the majority of our members will avail themselves of the opportunity to obtain this low-cost, broad form coverage, which is the result of extensive research and investigation by your Council on Insurance.

In presenting this plan, it is not the intention to suggest the discontinuance of existing accident and health plans in any state or local dental society, but rather to consider the American Dental Association policy as a basic plan to supplement other coverages already in force. In many instances members may be limited under their state plans to an amount of insurance insufficient for their needs, in which event additional insurance can be obtained under our new Association plan, in addition to that already in force. Professional men may carry accident and health insurance up to 80 per cent of their income.

The plan of insurance which we are offering our members will be underwritten by the National Casualty Company of Detroit, Michigan, and will be presented to our members by the insurance brokerage firm of M. A. Gesner Company of New York and Chicago. It will afford an opportunity to every member, regardless of past medical or insurance history, to obtain the most economical basic accident and health insurance protection available on a nonterminable basis as soon as our group has been established.

Your Council on Insurance expects to complete this nationwide enrollment program within a three months' period. Preparations for this enrollment are now under way.

At the end of the fixed enrollment period, policies will be issued to all members who file acceptable applications. Those who are physically impaired and are not normally acceptable risks will be given policies, if 50 per cent of the membership applies.

The National Casualty Company's plan of insurance is well established and in force in the states of California, Utah, Nevada, New Jersey and New York. No enrollment of these states will be made under this proposal. However, the more than 10,500 policyholders in these state groups will be credited toward the 50 per cent nationwide quota required.

Following is a brief outline of the plan to be offered:

Accident benefits

Full monthly benefit for total disability, from first day—limit 60

Table • Premium rates. (Applicable to ages at entry and attained at annual renewal of insurance)

Monthly benefits	Accidental death benefit	Dismemberment benefits	Annual rates		
			Ages up to 50	Ages 50 to60	Ages 60 to 65
$100.00	$3,000.00	$ 5,000.00	$ 32.10	$ 36.60	$ 45.60
$200.00	3,000.00	10,000.00	60.30	69.30	87.30
$300.00	3,000.00	15,000.00	88.50	102.00	129.00
$400.00	3,000.00	20,000.00	116.70	134.70	170.70

months. One-half monthly benefit for partial disability—limit 6 months. Limit of time for total and partial combined—60 months.

Sickness benefits

Full monthly benefit for total disability commencing with eighth day of disability—limit 24 months, house confinement not required.

Cancellation clause

Once issued, the policy cannot be ridered for recurrent disability nor can it be terminated as long as the group plan is in existence except for—

A. Nonpayment of premium.
B. If the insured retires or ceases to be actively engaged in the dental profession.
C. If the insured ceases to be a member of the American Dental Association.
D. If renewal is refused on all policies issued to all members of the American Dental Association.

Although the age limit for acceptance of risks is the sixty-fifth birthday, once issued, there is no termination age limit for renewal.

Premium rates are shown in the accompanying table. Premiums will be billed half-yearly. The top limit of $400.00 monthly will be granted insurable risks, with impaired risks limited to $200.00 monthly benefit.

Outstanding features of the policy are:

1. It has the broadest accident insuring clause "accidental bodily injury" for both total and partial disability.
2. All sicknesses and all accidents are covered except private flying, pregnancy, childbirth and miscarriage, suicide, and injuries due to hazards of warfare (raids by air, sea or land and all combat fighting shall constitute warfare).
3. No physical examination is required.
4. Full benefits are paid regardless of other disability insurance.
5. There is no pre-existing disease clause.
6. There is no aggregate clause.
7. Total disability is defined as inability to practice the dental profession.

Paul W. Zillmann
Chairman

COUNCIL ON DENTAL RESEARCH

Products added to A.D.A. list of certified dental materials

Since the publication of the most recently revised List of Certified Dental Materials (*J.A.D.A.* 43:78, July 1951) and the Products Added to the A.D.A. List of Certified Dental Materials (*J.A.D.A.* 43:495, October 1951; 44:81, January 1952; 44:326, March 1952; 44:449, April 1952; 44:562, May 1952) the following materials which conform to the American Dental Association specifications have been added:

CERTIFIED INLAY CASTING GOLD ALLOYS
(A.D.A. SPECIFICATION NO. 5;
TYPE B, MEDIUM)

Alloy	*Manufacturer or Distributor*
Luft "B"	John Luft Prescription Alloys

CERTIFIED DENTURE RESINS
(A.D.A. SPECIFICATION NO. 12)

Material	*Form*	*Manufacturer or Distributor*
Acrylic A Pink	Pink; powder-liquid	Austenal Laboratories, Inc.
Acrylic A Mottled	Pink; powder-liquid	Austenal Laboratories, Inc.
Acrylic A Orange	Pink; powder-liquid	Austenal Laboratories, Inc.

COUNCIL ON DENTAL HEALTH

Industrial dental programs

Because of the growing interest in dental programs for various groups of persons in the United States, the Council on Dental Health has made an effort to determine the extent and type of these programs in industry. A survey of existing industrial dental programs was reported to the Council when it held its second meeting of the year April 27 to 29 in the Central Office.

A list of known programs was compiled by the Council through contact with state dental directors, certain industries and unions, the American Association of Industrial Dentists and the U. S. Public Health Service.

A total of 162 questionnaires was sent to individuals and organizations. By March 22 of this year, 52 replies had been received, seven reporting no programs or their discontinuance. The answers evidenced a lack of uniformity of pattern for dental services. Several programs render complete dental care on a reduced fee basis at the expense of the employee; a few provide services paid for by the com-

panies involved; insurance takes care of a few more, and a mixture of these plans comprises the balance. Some programs emphasize repair and replacement; others, emergency service only, while a significant proportion use dental health education and referral methods. No mention was made of industrial hazards, but it is believed that the questionnaire was probably responsible for this lack of information.

The following data, compiled from the 52 returned questionnaires, show the lack of uniformity of pattern:

Organizational factors

Number having chief of dental staff	36
Total number of dentists on staffs	91
Total number of dental hygienists	35
Number with dental service under medical department	23
Number with dental department independent of medical department	15
Number reporting that dental and medical departments cooperate	30
Approximate total number of employees	78,206
Total number receiving dental care per year	60,652

Method of payment for dental services	Number of programs
Employee pays entire fee	10
Employee pays part fee	6
Employee pays no fee	19
Fees paid through insurance	5

Dental services provided	Number of programs
Pre-employment examinations	26
Periodic examinations	34
Roentgenograms—full mouth	35
Roentgenograms—bitewing	30
Emergency only	12
Referral	26
Dental prophylaxis	27
Extractions	30
Treatments	37
Fillings	21
Root canal	7
Inlay—bridge and crown	11
Dentures—partial	12
Dentures—full	13
Others	7
Educational programs	29

Thus far, only four programs have been found to conform fully with the standards recommended by the Council on Dental Health. The standards are based on the following services: pre-employment and periodic examinations including roentgenograms, emergency care for the relief of pain (to keep workers on the job), consultations, prophylaxis, referral to private practitioners for needed dental treatment, observation and elimination of industrial hazards, keeping of adequate records and dental health education.

Although much has been written on the subject since 1929, the Council concluded that its survey indicates there is no general understanding as to the value and scope of dental programs in industry

COUNCIL ON LEGISLATION

Statement of the American Dental Association before the Committee on Ways and Means of the House of Representatives on HR 4371 and 4373

Paul E. Jones of Farmville, N. C., a member of the Council on Legislation, testified before the Ways and Means Committee of the House of Representatives on May 13 in support of HR 4371 and 4373, introduced by Congressmen Keogh and Reed, respectively, both of New York. The bills contain identical proposals to encourage individuals to set aside funds voluntarily for their years of retirement. The incentive to finance a retirement program would be partial relief from the steeply graduated surtaxes, especially during years of high earning capacity. The House of Delegates, at the 1948 annual session, adopted a policy urging some form of tax relief for dentists. HR 4371 and 4373, if enacted, would go far toward fufilling that directive. Bernard J. Conway, assistant secretary of the Council on Legislation, appeared with Dr. Jones before the Committee.

Mr. Chairman and Members of the Committee:

I am Dr. Paul E. Jones of Farmville, North Carolina. I am a member of the Council on Legislation of the American Dental Association. I am here today to state the Association's position with regard to HR 4371 and 4373, which propose to establish an individual retirement act. With me is Mr. Bernard J. Conway of Chicago, Illinois, the assistant secretary of the Council on Legislation, who will assist me in answering any questions which the committee may desire to ask.

HR 4371 and 4373, which are the principal subjects of this hearing, are identical proposals to amend the Internal Revenue Code to establish an individual retirement program. The proposed retirement plan is designed to encourage and assist an individual to set aside funds for his retirement during the years in which his capacity to earn income from his occupation or profession is greatest. The encouragement or incentive to finance his retirement program takes the form of income tax relief.

Under the proposal an individual would pay not to exceed 10 per cent of his net earned income or $7,500, whichever is less, into a retirement fund sponsored by an agricultural, business, labor or professional association or organization, or some similar group, during each of his earning years. The sum contributed to a retirement plan would not be subjected to income tax during the year in which it was paid into the fund but would become taxable at the rates prevailing when withdrawn after retirement, according to any of the methods proposed in the legislation.

The benefits of the proposal would be available to almost all individuals whose incomes are derived chiefly from occupational or professional earnings. But the plan is of particular advantage to two classes of taxpayers who are peculiarly hard hit by the steeply graduated surtax structure of the federal income tax law: one class is composed of those whose earned incomes fluctuate considerably from year to year; the other class is composed of those who acquire most of their lifetime earnings during a relatively few years. Because of the high taxes they must pay during their limited high earning years, individuals in either class are ordinarily unable to set aside sufficient funds to provide adequately for their retirement.

The dentist almost invariably falls within the class of taxpayers who have a relatively limited number of high earning years. His extended period of education and training, plus the years spent in building up his practice, combine to compress both his total earning years and his high earning years.

Today, no person can become a dentist until at least six years and in most instances

Table • Mean net income of self-employed dentists by age groups as affected tax-wise by HR 4371 and 4373

Age group	No. of dentists	Net earned income	Present tax	Tax under amendment	Available for fund	Tax savings	Maximum yearly tax loss for age groups
Under 25	825	$3,210	$ 375	$ 311	$321	$ 64	$ 52,800
25-29	10,050	5,110	788	675	511	113	1,135,650
30-34	10,425	7,850	1,129	926	785	203	2,116,275
35-39	9,525	9,480	1,561	1,307	948	254	2,419,350
40-44	8,325	9,770	1,650	1,375	977	275	2,289,375
45-49	7,950	9,050	1,442	1,206	905	236	1,876,200
50-54	8,325	8,720	1,356	1,128	872	228	1,898,100
55-59	6,825	7,400	1,359	1,166	740	193	1,317,225

Columns 2 and 3 derived from the 1948 Survey of Dental Income by Department of Commerce, with 5 per cent added to the income for each age group as the estimated increase in annual income since 1948.

Income tax amounts calculated by Bureau of Economic Research and Statistics, American Dental Association. Groups "under 25, 25-29 and 55-59" assume two tax exemptions; all others assume four tax exemptions.

Data on incomes of dentists over 60 excluded since that age is fixed for retirement under HR 4371 and 4373.

Total maximum cost to government in any one year, assuming above data and 1952 tax rates $13,104,975.

Gross tax savings to dentists on income ages 25 to 59, both inclusive, estimated at $7,574. Gross deposits in pension fund possible $29,011 during same period. Annual withdrawals over 15 year period after retirement if maximum contributed $1,934 plus share of earnings of pension fund.

Pennies have been disregarded in all examples and sums rounded to nearest dollar.

seven, eight, or more years after he graduates from high school. Approximately 26 per cent of the students attending dental school in recent years have completed three years of undergraduate college training and 43 per cent have had four or more years before they embarked on the four-year dental course. A number of dental graduates, furthermore, postpones practice an additional year in order to participate in an internship or residency program. Because of these circumstances the average dentist does not begin to earn income from his professional practice until he has reached his twenty-sixth or twenty-seventh year. The average high school graduate, 19 years of age, who enters employment or business has at least seven years of earning advantage over the dentist. The average college graduate, 23 years of age, has at least three years.

The dentist, then, like members of the other learned professions, expends not only the funds for the cost of his education and subsistence during his school years, but he also sacrifices a period of time when he might otherwise be accumulating earnings, in order that he may be fully equipped to provide his essential services to the community.

After completing his education and training the average dentist begins to practice as an individual proprietor. He spends a considerable number of low income years building up his practice. After he is established he has a relatively few years of peak income, then a period of rapidly diminishing earnings.

The net income curve of dentists is shown in detail in the table attached to this statement. The curve starts at slightly over $3,000 annually at age 25, rises to nearly $10,000 in the early 40's, and then diminishes steadily. During his earning period the dentist attempts to recoup the funds invested in his education, meet his ordinary living expenses, and set aside funds to provide for his wife and children should he become disabled or die at an early age. He has little left to finance his own retirement, after he meets his income tax obligations.

During the years devoted to his practice the average dentist, like most members of the learned professions, must rely entirely on the difference between his gross earnings and expenses for his sustenance. Unlike many of those employed by others no one provides and contributes to a pension fund for him. No friendly law guarantees him minimum income in the event his patients fail to patronize him as is provided for the farmer whose market is depressed. There is no cushion akin to unemployment benefits for the dentist to fall back on should his business fail.

Although the dentist has the advantage of managing his practice, his business, free from the supervision of an overseer, that very independence makes him susceptible to the inherent inequities in our tax laws. While building up his practice he has in prospect the relatively few years after he is established during which he will have fairly high earnings. He must, however, forfeit an exceedingly large part

of those earnings to the tax collector under the present surtax system. An employed person, on the other hand, who has the same lifetime earnings as the average dentist will invariably pay less in taxes on those earnings than the dentist. The employed person will have had a much more uniform level of yearly income across his earning lifetime.

Many employed persons, moreover, in high as well as low tax brackets, receive under Section 165 pension plans (Internal Revenue Code) what is the equivalent of a tax deferral on part of their annual income. A contribution made by an employer under that type of pension plan is income to the employee beneficiary in a real sense. It is not taxed to the employee in the year in which it is placed to his credit in the pension fund, but it is taxed on receipt after his retirement. The American Dental Association in supporting HR 4371 and 4373 urges that Congress give to the private practitioner the same opportunity given the corporate employee to provide voluntarily for his own future.

The retirement plan proposed by HR 4371 and 4373 offers a partial relief to the professionally self-employed. It would not absolve them of the obligation to pay taxes on the amounts contributed toward their retirement. It would, rather, permit those who choose to participate in the plan to postpone paying taxes on their contributions until those funds become available after retirement as disposable personal income. By means of this device Congress will be able to remove some of the excessive burden of the surtax structure unintentionally imposed on a particular group, the professionally self-employed.

The cost of the proposal, as far as dentists are concerned, would not be unduly high. As shown by the table in the attachment, the immediate revenue loss to the government in any one year would be approximately $13,000,000 if every dentist availed himself of the benefits of the plan to the maximum extent, a highly improbable occurrence. Much of the immediate yearly loss would be eventually regained at the time beneficiaries begin to pay taxes on the funds returned to them after retirement.

The House of Delegates of the American Dental Association considered the heavy tax burden borne by dentists at its 1948 annual session and adopted a resolution endorsing the principle of some form of tax relief for the professionally self-employed. The Association has examined the proposal contained in HR 4371 and 4373 and has decided that it complies with the directive of that resolution. The Association, therefore, endorses the plan submitted by Congressmen Keogh and Reed. It will not, however, object to amendments designed to make the legislation more workable, nor would it object to a substitute plan which would achieve the objectives set out in the resolution adopted by the Association's House of Delegates.

In behalf of the American Dental Association I thank the committee for the opportunity to appear here to express the Association's position on HR 4371 and 4373 and I respectfully request the committee to recommend the proposed legislation favorably.

PRELIMINARY PROGRAM
AMERICAN DENTAL ASSOCIATION
NINETY-THIRD ANNUAL SESSION
ST. LOUIS, MISSOURI
SEPTEMBER 8-11, 1952

COUNCIL ON SCIENTIFIC SESSION

William A. Garrett, chairman
R. W. Frost
Wilbur D. Johnston
Charles S. Kurz
Charles Patton

OFFICIAL CALL

To the Members of the American Dental Association:

You are hereby notified that the Ninety-third Annual Session of the American Dental Association will be held in Saint Louis, Missouri, September 8-11, 1952. The scientific session will be held in the Kiel Auditorium.

The House of Delegates will convene for the annual business session of the American Dental Association at 9:30 A.M., Monday, September 8; the second meeting will be held at 1:30 P.M., Monday, September 8; the third meeting at 1:30 P.M., Wednesday, September 10, and the fourth meeting at 1:30 P.M., Thursday, September 11. All meetings of the House of Delegates will be in the Gold Room of the Hotel Jefferson. The Committee on Credentials will register delegates and alternate delegates beginning at 10:00 A.M., Sunday, September 7, at the Hotel Jefferson.

The annual State Officers Conference will be held in the Crystal Room, Hotel Jefferson, 9:00 A.M. to 5:00 P.M., Sunday, September 7.

General registration will be held at the Kiel Auditorium. Registration booths will be open from 10:00 A.M. to 5:00 P.M., Sunday, September 7; from 8:00 A.M. to 5:00 P.M. on Monday, Tuesday and Wednesday, September 8, 9 and 10, and from 9:00 A.M. to 5:00 P.M. Thursday, September 11.

The General Meeting will be held at 8:00 P.M., Tuesday, September 9, in the Gold Room, Hotel Jefferson.

At least sixty days prior to the first day of the annual session, the constituent societies must file with the secretary of the Association a list of the names and addresses of delegates and alternates.

LeRoy M. Ennis, President
Harold Hillenbrand, Secretary

LeRoy M. Ennis was born in West Chester, Pa., January 9, 1893. He was graduated in 1916 from the Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania, and since then has been actively associated with the department of roentgenology of that institution. He was instructor in oral surgery from 1917 to 1919, instructor in roentgenology from 1919 to 1930, assistant professor of roentgenology from 1930 to 1943 and professor of oral roentgenology from 1943 to the present time. He is professor and director of oral roentgenology, Graduate School of Medicine, University of Pennsylvania. Dr. Ennis has served as president of the Philadelphia County Dental Society, president of the Pennsylvania State Dental Society and secretary of the American Academy of Oral Roentgenology. He helped to establish and served as secretary of the American Dental Association's Section on Roentgenology.

He served on the Ivory Cross Expedition to the Netherlands in 1946 and the Mission to Japan in 1951, both of which were designed to aid dentists in their respective countries. He is a well known lecturer and author, having written innumerable articles and a textbook on dental roentgenology. He served in the House of Delegates of the Association for 20 years and on the Board of Trustees from 1944 to 1950.

During World War I he served two years in France in the Dental Corps of the First Division, U. S. Army. He was a captain in the Army Reserves until 1934 and a lieutenant commander in the Naval Reserves from 1934 to 1945. He is consultant radiologist to the Army, Navy, Veterans Administration, Public Health Service and the University of Pennsylvania Hospital.

LeRoy M. Ennis
President 1951-52

H. N. Brownson
Oral Surgery and
Anesthesia

M. H. Mortonson, Jr.
Operative Dentistry

W. R. Joule
Orthodontics and Oral
Development

W. A. Jordan
Pedodontics

W. Leabo
Periodontics

SECTION
CHAIRMEN
A.D.A. NINETY-THIRD
ANNUAL SESSION
ST. LOUIS, MO.

A. C. Young
Prosthodontics, Partial Dentures

T. A. Bodine
Prosthodontics, Full Dentures

J. W. Knutson
Research

C. H. Kendall
Practice Management

W. J. Updegrave
Roentgenology

B. D. Forsyth
Public Health Dentistry

H. F. Westhoff
General Chairman

O. A. Oliver
Honorary Chairman

R. P. Thomas
Honorary Chairman

R. J. Rinehart
Honorary Chairman

O. J. Fruth
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H. C. Pollock
Honorary Chairman

R. H. Miller
Vice Chairman

O. F. Steber
Vice Chairman

D. W. Brock
Vice Chairman

M. Kornfeld
Vice Chairman

CHAIRMEN
COMMITTEE ON
LOCAL ARRANGEMENTS
A.D.A.
NINETY-THIRD
ANNUAL SESSION
ST. LOUIS, MO.

F. A. Strake
Reception

G. A. Clipner
Information

P. G. Vierheiler
Entertainment

F. W. Jaeger
Convention Hall

A. N. Blaney
Publicity

Mrs. E. C. Bean
Women's Entertainment

Essay Program

COMBINED SECTION MEETING

Presiding • William A. Garrett, chairman Council on Scientific Session

Wednesday forenoon, September 10

Panel Discussion: Evaluation of the uses of antibiotics in dentistry

Moderator: Harry Lyons, Richmond, Va.

General consideration of usefulness and limitations of antibiotics
Robert J. Glaser, M.D., St. Louis

Use of antibiotics in oral surgical procedures
Jack B. Caldwell, Washington, D. C.

Uses of antibiotics in the treatment of periodontal disease and in endodontics
Floyd D. Ostrander, Ann Arbor, Mich.

Panel Discussion: Evaluation of the effect of oral focal infection

Moderator: Lester W. Burket, Philadelphia

Role of the pulpless tooth in systemic disease: a summary
Kenneth A. Easlick, Ann Arbor, Mich.

An internist's concept of oral focal infection
William E. Wellman, M.D., Rochester, Minn.

An oral surgeon's experience with oral focal infection
James R. Cameron, Philadelphia

SECTION ON OPERATIVE DENTISTRY

Officers • Morton H. Mortonson, Jr., chairman
Miles R. Markley, vice-chairman

Tuesday afternoon, September 9

(Combined with Section on Periodontics)

Restorations and the periodontal tissues
Ray G. Perschbacher, Denver

Operative dentistry and periodontal disease
John H. Mosteller, Mobile Ala.

Wednesday afternoon, September 10

(Combined with Sections on Orthodontics and Oral Development and Roentgenology)

Intraoral roentgenography for children
Donald T. Waggener, Lincoln, Neb.

Relation of operative dentistry to orthodontics
John M. Spence, Chicago

Practical orthodontics for adults
J. Bernard Hutcherson, Louisville

Thursday forenoon, September 11

High speed instruments in operative dentistry
Rex Ingraham, Los Angeles

New and more efficient methods in operative dentistry
Henry M. Tanner, Los Angeles

SECTION ON ORAL SURGERY AND ANESTHESIA

Officers • H. Newman Brownson, chairman
Irvin T. Hyatt, vice-chairman

Tuesday afternoon, September 9

(Combined with Sections on Complete Prosthodontics and Roentgenology)

Moderator: Clyde H. Schuyler, New York

Diagnosis and treatment of temporomandibular joint diseases
LeRoy W. Peterson, St. Louis

The temporomandibular joint syndrome from the standpoint of the prosthodontist
Louis S. Block, Louisville, Ky.

Simplified technic in oral roentgenology
Joseph J. Martini, Passaic, N. J.

Surgical correction of anomalies prior to denture construction
Lester H. Jasper, St. Louis

Prosthetic appliances for patients upon whom extensive surgical treatment was necessary
Ralph S. Lloyd, Baltimore

Place of roentgenology in denture prosthesis
Sam W. Williams, Minneapolis

Wednesday afternoon, September 10

Current methods of general anesthesia in oral surgery
Edward C. Thompson, Urbana, Ill.

Factors to be considered by general practitioner in use of a local anesthetic
Russell G. Boothe, Chicago

Thursday forenoon, September 11

Oral lesions of diagnostic significance
Donald E. Woodard, Kansas City, Mo.

Treatment and dietary control of trigeminal neuralgia
G. Morrell Prince, Pasadena, Calif.

SECTION ON ORTHODONTICS AND ORAL DEVELOPMENT

Officers • William R. Joule, chairman
Robert M. Ricketts, vice-chairman

Tuesday afternoon, September 9

(Combined with Section on Pedodontics)

Rational timing of orthodontic treatment
Beulah G. Nelson, Oak Park, Ill.

Control of caries during orthodontic treatment
Sidney I. Kohn, Jersey City, N. J.

Wednesday afternoon, September 10

(Combined with Sections on Operative Dentistry and Roentgenology)

Intraoral roentgenography for children
Donald T. Waggener, Lincoln, Neb.

Relation of operative dentistry to orthodontics
John M. Spence, Chicago

Practical orthodontics for adults
J. Bernard Hutcherson, Louisville, Ky.

SECTION ON PEDODONTICS

Officers • William A. Jordan, chairman
Harold K. Addelston, vice-chairman

Tuesday afternoon, September 9

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Rational timing of orthodontic treatment
Beulah G. Nelson, Oak Park, Ill.

Control of caries during orthodontic treatment
Sidney I. Kohn, Jersey City, N. J.

Wednesday afternoon, September 10

(Combined with Section on Public Health Dentistry)

American Dental Association program for community dental health
W. Philip Phair, Chicago

A new trend in community treatment programs
Chester J. Schultz, Cleveland

Thursday forenoon, September 11

General anesthesia in pedodontics
Clifford A. Frey, Appleton, Wis.

Dental examination of the child patient
Harold C. Wittich, Minneapolis

SECTION ON PERIODONTICS

Officers • Walter Leabo, chairman
Rowe Smith, vice-chairman

Tuesday afternoon, September 9

(Combined with Section on Operative Dentistry)

Restorations and the periodontal tissues
Ray G. Perschbacher, Denver

Operative dentistry and periodontal disease
John H. Mosteller, Mobile, Ala.

Wednesday afternoon, September 10

Effect of well-planned diets on periodontal tissues
Dorothea F. Radusch, Minneapolis

Prevalence and incidence of alveolar bone disease in adult males
Charles M. Belting, Chicago

Thursday forenoon, September 11

(Combined with Section on Partial Prosthodontics)

Oral rehabilitation program and periodontics
Otto W. Silberhorn, Chicago

Periodontics and restorative dentistry
Samuel Charles Miller, New York

SECTION ON PRACTICE MANAGEMENT

Officers • Charles H. Kendall, chairman
Ralph H. Campbell, vice-chairman

Thursday forenoon, September 11

Looking forward forty years
William N. Miller, Flint, Mich.

Common office problems and their solutions
Wallace N. Kirby, Downers Grove, Ill.

Building and preserving a dental practice
Harry M. Klenda, Wichita, Kan.

SECTION ON COMPLETE PROSTHODONTICS

Officers • Theodore A. Bodine, chairman
Frank M. Kyes, vice-chairman

Tuesday afternoon, September 9

(Combined with Sections on Oral Surgery and Anesthesia and Roentgenology)

Moderator: Clyde H. Schuyler, New York

Diagnosis and treatment of temporomandibular joint diseases
LeRoy W. Peterson, St. Louis

The temporomandibular joint syndrome from the standpoint of the prosthodontist
Louis S. Block, Louisville, Ky.

Simplified technic in oral roentgenology
Joseph J. Martini, Passaic, N. J.

Surgical correction of anomalies prior to denture construction
Lester H. Jasper, St. Louis

Prosthetic appliances for patients upon whom extensive surgical treatment was necessary
Ralph S. Lloyd, Baltimore

Place of roentgenology in denture prosthesis
Sam W. Williams, Minneapolis

Wednesday afternoon, September 10

(Combined with Section on Research)

Physical and other properties of cold cure acrylic resins
E. Byron Kelly, Chicago

Cold cure acrylic resin for complete denture material
Ralph E. Libberton, Chicago

Cold cure acrylic resin for intraoral correction of complete dentures
Victor N. Jaffe, Washington, D. C.

Relation of occlusal tooth surfaces to denture stability
Robert S. Ledley, Washington, D. C.

Single plane occlusion as related to denture stability
Muller M. DeVan, Philadelphia

Cusp teeth as related to denture stability
Saul C. Robinson, Portland, Ore.

Thursday forenoon, September 11

Impression taking of the edentulous mouth based on the principles of functional anatomy
John W. Geller, Indianapolis

Diet and nutrition of the edentulous patient
Arvin W. Mann, Fort Lauderdale, Fla.

SECTION ON PARTIAL PROSTHODONTICS

Officer • Alfred C. Young, chairman

Tuesday afternoon, September 9

Indications for use of plastic resins in crown and bridge prosthesis
Douglas H. Yock, Minneapolis

Preparation of teeth for complete porcelain crown
Charles B. Walton, Pittsburgh

Instrumentation for preparation of veneer crown
Claude R. Baker, Chapel Hill, N. C.

Wednesday afternoon, September 10

Auxiliary uses of self-polymerizing acrylic resin in prosthetic dentistry
William L. McCracken, Ann Arbor, Mich.

Failures in crown and bridge prosthesis
Richard L. Simpson, Richmond, Va.

Thursday forenoon, September 11

(Combined with Section on Periodontics)

Oral rehabilitation program and periodontics
Otto W. Silberhorn, Chicago

Periodontics and restorative dentistry
Samuel Charles Miller, New York

SECTION ON PUBLIC HEALTH DENTISTRY

Officers • Bruce D. Forsyth, chairman
Milton E. Nicholson, vice-chairman

Tuesday afternoon, September 9

Explaining fluoridation to the public
John G. Frisch, Madison, Wis.

Layman's interpretation of the dentist's advice
Andie L. Knutson, Ph.D., Washington, D. C.

Wednesday afternoon, September 10

(Combined with Section on Pedodontics)

American Dental Association program for community dental health
W. Philip Phair, Chicago

A new trend in community treatment program
Chester J. Schultz, Cleveland

Thursday forenoon, September 11

(Combined with Section on Research)

Integration of services in the treatment of cleft palate cases
Herbert K. Cooper, Lancaster, Pa.

Dental caries from the standpoint of the orthodontist
William A. Elsasser, Washington, D. C.

Climate and controlled fluoridation
Donald J. Galagan, San Francisco

SECTION ON RESEARCH

Officers • John W. Knutson, chairman
George C. Paffenbarger, vice-chairman

Tuesday afternoon, September 9

Effect of tobacco on epithelial tissue of mice
Seymour J. Kreshover, Richmond, Va.

Fluorescence: new means for investigation of tooth structures
Alphonse F. Forziati, Ph.D., Washington, D. C.
George Dickson, M.A., Washington, D. C.

Crystallography of teeth, bone and related substances
Aaron S. Posner, M.S., Washington, D. C.
Samuel R. Stephenson, B.S., Washington, D. C.

Radioactive isotopes in studies of oral physiology and pathology
Herbert J. Bartelstone, Staten Island, N. Y.
Discusser: Gerrit Bevelander, New York

Wednesday afternoon, September 10

(Combined with Section on Complete Prosthodontics)

Physical and other properties of cold cure acrylic resins
E. Byron Kelly, Chicago

Cold cure acrylic resin as a complete denture material
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Donald J. Galagan, San Francisco

SECTION ON ROENTGENOLOGY

Officers • William J. Updegrave, chairman
H. Cline Fixott, Jr., vice-chairman

Tuesday afternoon, September 9

(Combined with Sections on Complete Prosthodontics and Oral Surgery and Anesthesia)

Moderator: Clyde H. Schuyler, New York

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Ralph S. Lloyd, Baltimore

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Sam W. Williams, Minneapolis

Wednesday afternoon, September 10

(Combined with Sections on Operative Dentistry and Orthodontics and Oral Development)

Intraoral roentgenography for children
Donald T. Waggener, Lincoln, Neb.

Relation of operative dentistry to orthodontics
John M. Spence, Chicago

Practical orthodontics for adults
J. Bernard Hutcherson, Louisville, Ky.

Clinic Program

CROWN AND BRIDGE

Fixed bridge precision attachments
Coyl B. Thomas, Lebanon, Mo.

Preventing casting failures
G. F. Glasson, Washington, D. C.

Direct-indirect technic for acrylic crown and bridge prosthesis
Jack F. Cathcart, Berkeley, Calif.

Anterior three-quarter crown preparations
R. F. Lamb, Washington, D. C.
E. R. Johnston, Washington, D. C.

Accurate gold inlays and bridges from reversible hydrocolloid impressions
Herman M. Lifton, Melvindale, Mich.

Spot welding technic
Lawrence H. Paschal, Fayetteville, N. C.

Establishing correct vertical dimension for natural dentition
John A. McClung, Winston-Salem, N. C.

The preparation of impressions and casts for fixed bridges
Harry Spiro, Chicago

Lower anterior bridge with denture tooth pontic
Jules H. PeKarna, Austin, Minn.

Waxing and finishing multiple inlays and bridges from a hydrocolloid impression
Ross C. Lindley, Seattle

Fixed bridgework where space or caries is a complicating factor
Elmar A. Siegel, Lyons, N. J.

OPERATIVE DENTISTRY

Economic aids for patient and dentist
P. T. Williams, Anita, Iowa

Precision inlay technic
C. W. Cory, Chicago

Etching of gold restorations
Roy M. Cumming, Detroit

An alginate technic for indirect gold inlays
Ernest F. Soderstrom, Modesto, Calif.

High speed operation of rotating dental instruments
Donald C. Hudson, Washington, D. C.
Jack L. Hartley, Washington, D. C.

Simplified procedure for bleaching pulpless teeth
John I. Ingle, Seattle

Better gold inlays
B. Placek, Chicago

An evaluation of acrylic filling materials
Ben Dent, Memphis, Tenn.

Third dimensional photography in dentistry
Jackson W. Bates, Ovid, Mich.

Optical illusions and cosmetic grinding
R. L. Blancherd, San Diego

Gold castings
W. A. Cowan, State Center, Iowa

A new method of mixing silicate cements
A. H. Grunewald, Washington, D. C.

General use of the rubber dam (group clinic)
C. M. Stebner, Laramie, Wyo.

Manipulation of amalgam
George W. Ferguson, Great Lakes, Ill.

Hydrocolloid technic for inlays
Charles Z. Candler, Asheville, N. C.

Practical method for anesthetizing dentin
J. Raymond Fritz, Hartford, Conn.

Acrylic fillings
Richard R. Shoaf, Lexington, N. C.

Evaluation of castings made by vacuum investing with different materials
David A. Barrett, Milwaukee
Lloyd O. Pilling, Milwaukee

ORAL SURGERY

Operative steps in alveoplasty
E. Benton Conaway, Columbus

Maxillofacial prosthesis
William H. Olin, Iowa City, Iowa

Swellings of the face: differential diagnosis and treatment
Benjamin Gans, Chicago

Antral infections of dental origin
Edmund F. Lieb, Minneapolis

Therapeutics in oral surgery
A. O. Christiansen, Milwaukee

Classification and correction of mandibular defects
E. T. Lewis, Pittsburgh

Apicoectomy
J. Donald McPike, Muscatine, Iowa

Practical oral surgery
Benjamin Tucker, Babylon, N. Y.

Use of molar root dividers
George Alex. Hoskins, Chicago

Interesting oral surgical case histories
Samuel I. Kaplan, Hartford, Conn.

Splints for mandibular fractures and trismus
Walter R. Dixon, New Orleans

ORTHODONTICS

Simplified method of circumferential wiring
John C. Versnel, St. Louis

Head-cap treatment during mixed dentition
D. H. Ketterhagen, Milwaukee

Space maintenance
Dorothy R. Rizzo, Chicago

PEDODONTICS

Pulp management in the mixed dentition
Naomi A. Dunn, New Britain, Conn.
Irving W. Eichenbaum, New Britain, Conn.

Objectives of dentistry for children
Chester Lloyd, Memphis, Tenn.

Vinyl ether as a general anesthetic for children
Daniel C. York, Fort Worth, Texas

PERIODONTICS

Biologic basis for periodontal instrumentation
Abraham Berliner, New York

Treatment of inflamed periodontal tissues
J. W. Gallagher, Seattle

Photography in the diagnosis and study of periodontal lesions
Joseph Y. Reed, Dallas, Texas

Surgery in periodontics
B. O. A. Thomas, Seattle

Elimination of periodontal pockets
Zar A. Reader, Detroit

Diagnosis and correction of occlusal trauma
Clyde K. Wolf, Detroit

Occlusal factors in diagnosing and treating periodontal disease
Marvin B. Weiss, Hines, Ill.

Armamentarium, aids and adjuncts in periodontal therapy
Robert H. Bernert, Hartford, Conn.

PROSTHODONTICS

Impressions of edentulous mandibles
Claude E. Gillam, Pasadena, Calif.

Mandibular implants by direct impression technic
W. E. Pernell, Chandler, Ariz.

Failures of denture balance and function
F. S. Meyer, Minneapolis

Stress-breakers which automatically return partial denture saddles to rest position
Allison G. James, Beverly Hills, Calif.

Immediate temporary restorations of acrylic resin
Ellen K. Wellensick, Houston, Texas

Hydrocolloid impressions and stone models in full mouth reconstruction
E. O. Hancock, Salem, Ill.

How to build beautiful dentures
George Wood Clapp, New York

Complete dentures in function
Judge C. Chapman, Washington, D. C.

Tinting of dentures
Earl Pound, Los Angeles

Impression of the edentulous mandible
Clifford L. Hutson, Glendale, Calif.

Adjusting a complete denture to the natural opposing teeth
F. Q. Kelleam, Amarillo, Texas

Taction—A guide to better impressions
Robert T. Holt, Temple, Texas

An accurate method of checking correct vertical relation
Welton D. Pearson, Chattanooga, Tenn.

A reliable method of establishing centric relation
William Roy Eberle, Chicago

Complete lower denture impression technic
A. B. Noble, Corpus Christi, Texas

Partial and complete dentures
N. G. Wills and K. B. Shelton, Connersville, Ind.

Occlusal, incisal and cingulum rests for partial dentures
Lynn C. Dirksen, Washington, D. C.

Prosthetic restorations for patients with extensive loss of tissue
Benjamin M. Hoffman, Bronx, N. Y.

Adding a tooth to a partial denture immediately following extraction
E. T. Jipp, Blair, Neb.

ROENTGENOLOGY

Film and tube relationship in roentgenography
Ralph S. Voorhees, Jr., Rochester, N. Y.

Common roentgenographic errors
H. Cline Fixott, Jr., Portland, Ore.

Dental radiology and radiobiology
William Ward Wainwright, Chicago

Interpretation of dental roentgenograms
Aloysius J. Trainor, Tomah, Wis.

Roentgen ray hazards in the dental office
George W. Burnett, Washington, D. C.

DETROIT DENTAL CLINIC CLUB

Vibration of silicates
Robert W. Laidlaw, Tecumseh, Mich.

Use of acrylic in anterior restorations
Edward A. Moeller, Detroit

Manipulation and condensation of amalgam
Harold J. Luria, Dearborn, Mich.

Matrixes and matrix retainers
Norman H. Strong, Detroit

Self-polymerizing acrylic restorations
George J. Miller, Dearborn, Mich.

AMERICAN DENTAL HYGIENISTS ASSOCIATION

Snyder test in the dental office
Enid Andrews, Glencoe, Ill.

Recall system
Shirley Hunley, Wauconda, Ill.

Kiddies' korner
Patricia Vibber, South Cleveland, Ohio

Fluorides and dental fluorosis
Virginia B. Manella, Colorado Springs, Colo.

Recognizing periodontal disease
Lorna Bruning, Minneapolis

Dental health teaching materials from Alameda county schools
March K. Fong, Oakland, Calif.

Care and sharpening of instruments
Margot W. Peterson, Grant Notch, N. J.

Dental hygiene for the exceptional patient
Doris Hipple, Spring City, Pa.

This is our line
Ruth Hardt, Milwaukee

Instructional aids in dental hygiene
Blanche Downee, Mount Airy, Pa.

Roentgenographic aids
Zerah Mann, Topeka, Kan.

Television Clinic Program

Subcommittee on Television Clinics

William S. Brandhorst, chairman
Joseph L. Bernier
Lester W. Burket
Wilbur D. Johnston
Robert G. Kesel
Charles A. Waldron

Clinical demonstrations, televised in color, may be viewed on television receiving sets in Convention Hall of the Kiel Auditorium in St. Louis. The program, sponsored by E. R. Squibb and Sons, New York, will use television equipment supplied by and operated under the direction of Remington-Rand. Demonstrations will be performed in a special dental operating room equipped by Thau-Nolde, Inc., St. Louis. All registrants for the annual session may view the demonstrations in the Convention Hall. The program will be presented Monday forenoon and afternoon and Tuesday forenoon, September 8 and 9.

Leukoplakia series and biopsy technic
Director: Joseph L. Bernier, Washington, D. C.

Gingivectomy
Director: Balint Orban, Colorado Springs, Colo.

Handling the child patient
Director: Earl L. Lampshire, Lincoln, Neb.

Advantages and disadvantages of the long cone roentgenology technic
Director: Clarence O. Simpson, St. Louis

Hydrocolloid impression technics
Director: Morris J. Thompson, Beverly Hills, Calif.

The treatment of cleft palate
Director: L. Woodrow O'Brien, St. Louis

Direct wax pattern technic
Director: Russell C. Wheeler, St. Louis

Scientific Exhibits

A study of the temporomandibular joint and free-way space and its significance in the rehabilitation of the masticatory mechanism

Joseph S. Landa and Stuart J. Landa, New York

Dental education for better understanding between the patient and the dentist

Phillip T. Williams, Anita, Iowa

Cooperative dental research: American Dental Association, National Bureau of Standards, the Armed Forces, and Veterans Administration

American Dental Association Research Fellowship and National Bureau of Standards

The use of chrome steel in children's dentistry

William P. Humphrey, Denver

Maxillofacial and body prosthesis

Edward J. Fredrickson, Spokane, Wash.

Balancing complete dentures for masticatory function

Jesse V. Boswell, Springfield, Mo.

Activities in research at the Armed Forces Institute of Pathology

Col. Joseph L. Bernier, Armed Forces Institute of Pathology

Dental activities

Walter Reed Army Medical Center

Fluoridation of public water supplies

American Dental Association Council on Dental Health

Oral cancer and the dentist

Ralph S. Lloyd, National Cancer Institute

Cancer of the oral cavity

Charles S. Cameron, American Cancer Society, Inc.

Food models

American Dietetic Association

Prosthetic rehabilitation of cleft palate patients

Cloyd S. Harkins and William R. Harkins, Osceola Mills, Pa., and John F. Harkins, Erie, Pa.

Tooth preparations for inlays, crowns and bridge abutments

Harmon Shohet, Boston

Role of the pharmacist on the public health team—physician, dentist, nurse and pharmacist

American Pharmaceutical Association

Conservation of the tooth and the contiguous tissues

Frank J. Gruchalla, St. Louis

Carcinoma of the paranasal sinuses

University of Chicago, Walter G. Zoller Memorial Dental Clinic

Tumors of the mouth and jaws

Orion H. Stuteville, Loyola University Dental School, Chicago

Dimensional stability of the self-curing denture base resins

St. Louis University, School of Dentistry

Plastic surgical reconstruction of clefts of the upper lip

St. Louis University, School of Dentistry

Cephalometrics and their application to restoration of lost vertical dimension

St. Louis University, School of Dentistry

Applied pathology of the oral cavity

St. Louis University, School of Dentistry

Rehabilitation of the cleft palate patient

St. Louis University, School of Dentistry

Conservation of pulp-involved teeth

St. Louis University, School of Dentistry

Surgical management of benign oral tumors

St. Louis University, School of Dentistry

Orthodontics

St. Louis University, School of Dentistry

Complete mouth rehabilitation
Harry Kazis and Albert J. Kazis, Boston

Benign and malignant lesions of the mouth
Louis H. Jorstad, St. Louis

Cleft palate training program
Andrew C. Ivy, Herbert R. Kobes, Herbert K. Baker, University of Illinois Professional Colleges and Division of Services for Crippled Children

United States Air Force mobile dental trailer
Lt. Col. Sydney G. Gordon, United States Air Force

Acrylics in fixed partial dentures
Douglas M. Lyon, Paul J. Leone, Walter Elevick, St. Louis University, School of Dentistry

Oral pathological conditions
Otto F. Freitag, St. Louis University, School of Dentistry

Abnormalities of the oral tissues and head
Ray F. Goering, Duluth, Minn.

Post extraction bacteremia and a method of prevention by the administration of antibiotics with especial reference to the use of oral troches
Israel B. Bender, Robert S. Pressman, Sylvia G. Tashman, Albert Einstein Medical Center, Philadelphia

Aureomycin in dentistry, 1949-1952
Lester Hugh Roth, Gerald J. Cox, University of Pittsburgh School of Dentistry

United States Air Force dental service
Col. Donald C. Hudson, USAF

Mobile anesthesia unit for field use
Lt. Col. Fred C. Dye, Sampson Air Force Base, Geneva, N. Y.

Dental treatment for the cerebral palsied
Dental Guidance Council for Cerebral Palsy

Magnetic implants to aid denture retention
Stanley J. Behrman and George F. Egan, New York

Periodontal disease
Thomas E. Prosser, East St. Louis, Ill.

Hydrocortisone in dental practice
Charles P. Horton, New York, and Lyon P. Strean, Rahway, N. J.

Cancer and precancer of the oral cavity
George S. Sharp, Pasadena, Calif.

Your mouth and its care
Washington University, School of Dentistry, St. Louis

The scope of the dental hygienist
American Dental Hygienists Association

Know your Food and Drug Administration
Federal Security Agency, Food and Drug Administration

The role of the dentist in atomic disaster
Department of the Navy, Bureau of Medicine and Surgery, Navy Dental Corps

Current research in oral biology
Naval Medical Research Institute, Dental Division, Bethesda, Md.

Forsyth Dental Infirmary program
Forsyth Dental Infirmary for Children, Boston

Just healthy kids
Fred D. Miller, Altoona, Pa.

Reconstructive surgery
Francis X. Paletta, St. Louis

Motion Pictures

Dental assistants—their effective utilization
United States Public Health Service

Fluoridation
United States Public Health Service

Toothbrushing for the periodontal patient
University of Minnesota, School of Dentistry

Simultaneous curettage and canal filling
University of Minnesota, School of Dentistry

Bone graft and plating of mandible
University of Minnesota, School of Dentistry

The prevention of malpractice claims
Joint Liability Insurance Committee of the First and Second District Dental Societies, New York

Surgical implant technique for full lower and upper dentures
Nicholas Berman, Seattle

The posterior bridge
Wilford H. Burwell, Los Angeles

Partial dentures—biomechanics
Capt. Robert V. Schultz, Bureau of Medicine and Surgery, Washington, D. C.

Complicated exodontia—introduction
Capt. Robert V. Schultz, Bureau of Medicine and Surgery, Washington, D. C.

Biologic approach to the periodontal problem
Abraham Berliner, New York

Gingivoplasty
Clifton O. Dummett, Veterans Administration, Tuskegee, Ala.

Intravenous anesthesia
Wayne R. Dunnom, Oak Park, Ill.

Etiology and correction of traumatic occlusion and methods for expediting the arrangement of denture teeth
Bernard Jankelson, Seattle

Blood chemistry in dentistry
Joseph Donald Shriber, Los Angeles

A modern check bite technique
Ernest R. Granger, Mt. Vernon, N. Y.

Oral cancer: the problem of early diagnosis
American Cancer Society

A drop in the bucket
United States Public Health Service

Orthodontic with surgical treatment of class III malocclusion
Anton A. Phillips, Raleigh, N. C.

Temporomandibular joint disturbances
Harry N. Seldin, S. Daniel Seldin and William Rakower, New York

Multiple facial fractures—tumors
Capt. Bernard M. Cohen, U. S. Air Force Hospital, Scott Air Force Base, Ill.

Histological technic
James A. Miller, Jr., Emory University, School of Dentistry, Atlanta, Ga.

These are our children
Robert L. Fisher, Dental Guidance Council for Cerebral Palsy, New York

Technical Exhibitors

Abbott Laboratories, North Chicago, Ill.
Ackerman Dental Manufacturing Company, P. O. Box 246, Santa Monica, Calif.
Acralite Company, Inc., 230 West 41 Street, New York
Aderer, Inc., Julius, 219 East 44th Street, New York
A Digest of Dental Science, 74 Broad Street, New York
Allison Company, W. D., 1133 Burdsal Parkway, Indianapolis
American Cabinet Company (Div. Hamilton Mfg. Co.), Two Rivers, Wis.
American Medical Association, 535 North Dearborn Street, Chicago
American Sterilizer Company, 1230 Plum Street, Erie, Pa.
Ash, Sons & Company, U.S.A., Inc., Claudius, 127-131 Coit Street, Irvington, N. J.
Astra Pharmaceutical Products, Inc., 7½ Neponset Street, Worcester, Mass.
Astral Industries, Inc., P. O. Box 239, Northvale, N. J.
Austenal Laboratories, Inc., 5932 Wentworth Avenue, Chicago

Baker & Company, Inc., 850 Passaic Avenue, East Newark, N. J.
Vernon-Benshoff Company, P. O. Box 1587, Pittsburgh
Boos Dental Labs., Inc., Henry P., 808 Nicollet Avenue, Minneapolis, Minn.
Bosworth Company, Harry J., 216 West Jackson Boulevard, Chicago
Bristol-Myers Products Division, 630 Fifth Avenue, New York
Buffalo Dental Mfg. Company, 775 Main Street, Buffalo
Burton Manufacturing Company, 11201 West Pico Boulevard, Los Angeles
Butler Company, John O., 540 North Lake Shore Drive, Chicago

Caulk Company, The L. D., Milford, Del.
Charlou Company, The, 4821 South Packard Avenue, Cudahy, Wis.
Childs Manufacturing Company, 503-6 Bankers Insurance Building, Macon, Ga.
Church & Dwight Company, Inc., 70 Pine Street, New York
Cleveland Dental Manufacturing Company, The, 3307 Scranton Road, S. W., Cleveland
Coe Laboratories, Inc., 6033 Wentworth Avenue, Chicago
Coles Corporation, 3212 Market Street, Philadelphia
Columbia Dentoform Corporation, 131 East 23rd Street, New York
Columbus Dental Manufacturing Co., The, 634 Wager Street, Columbus
Cook-Waite Laboratories Inc., 1450 Broadway, New York
Coreco Research Corporation, 1908 Broadway, New York
Corega Chemical Company, 76 Mill Road, Jersey City, N. J.
Cosmos Dental Products Inc., 219 East 44th Street, New York
Crescent Dental Manufacturing Company, 1839 South Pulaski Road, Chicago

Densco, Inc., Box 420, Denver
Dental Development & Manufacturing Corp., 653 Washington Avenue, Brooklyn
Dental Perfection Company Inc., 543 Arden Avenue, Glendale, Calif.
Dentascope, 331 North Howard Street, Baltimore
Dentists' Supply Company of New York, The, 220 West 42nd Street, New York
Dudley Research Corporation, 18 West 27th Street, New York
Du Pont de Nemours & Company Inc., E. I., 10th and Market Streets, Wilmington, Del.
Durallium Products Corporation, 809 West Washington Boulevard, Chicago

Eastman Kodak Company, 343 State Street, Rochester, N. Y.
Emesco Dental Company, 150 Fifth Avenue, New York

Fleet Company, Inc., C. B., Lynchburg, Va.
Frein Dental Laboratory Inc., 3531 Lindell Boulevard, St. Louis
Friedman Specialty Company, 7 South Dearborn Street, Chicago

General Electric X-Ray Corporation, 4855 Electric Avenue, Milwaukee
Gesner Company, M. A., 100 Maiden Lane, New York
Getz Corporation, The William, 7512 South Greenwood Avenue, Chicago
Graham Chemical Company, 129-21 Merrick Boulevard, Springfield Gardens, N. Y.
Griesinger, Walter H., Weatherly Building, Portland, Ore.

Hall Dental Products Company, 210 Throop Avenue, Brooklyn, N. Y.
Hanau Engineering Company, Inc., 1233 Main Street, Buffalo, N. Y.
Handler & Son, Edward, 86-90 North Avenue, Garwood, N. J.
Harvey Dental Specialty Company, 8714 South San Pedro Street, Los Angeles
Hatch Company, Inc., B. G., 24 Lawrence Street, Brooklyn, N. Y.
Hirsch Dental Company, Henry H., 12860 Fairhill Road, Cleveland
Hudson Products, Inc., 111 Academy Street, Jersey City, N. J.
Hu-Friedy, Inc., 3118 North Rockwell Street, Chicago

Interstate Dental Company, Inc., 220 West 42nd Street, New York
Ivory, Inc., J. W., 310-12 North 16th Street, Philadelphia

Jelenko & Company, Inc., J. F., 136 West 52nd Street, New York
Johnson & Johnson, New Brunswick, N. J.
Justi & Son, Inc., H. D., 32nd and Spring Garden Streets, Philadelphia

Kay See Dental Manufacturing Company, 545 Main Street, Kansas City, Mo.
Kerr Manufacturing Company, 6081 12th Street, Detroit

Lactona Incorporated, 236 East 9th Street, St. Paul
Lea & Febiger, 600 South Washington Square, Philadelphia
Lederle Laboratories Division, American Cyanamid Company, 30 Rockefeller Plaza, New York
Lippincott Company, J. B., 227 South Sixth Street, Philadelphia
Luxene, Inc., 118 East 25th Street, New York

Manhattan Uniform Company, 509 South Wabash Avenue, Chicago
McCaldry, Inc., 5214 East 12th Street, Oakland, Calif.
McKesson Appliance Company, Toledo
Medical Protective Company, The, Fort Wayne, Ind.
Midwest Dental Manufacturing Company, 4439 West Rice Street, Chicago
Minimax Company, The, 5905 North Clark Street, Chicago
Mizzy, Inc., 304 East 23rd Street, New York
Modern Materials Manufacturing Company, 2231 Chouteau Avenue, St. Louis
Mosby Company, C. V., 3207 Washington Boulevard, St. Louis
Moskey & Geiss Dental Laboratories, Huron-Ninth Building, Cleveland
Moyer Company, Inc., The J. Bird, 117-121 North 5th Street, Philadelphia
Myerson Tooth Corporation, 90 Hamilton Street, Cambridge, Mass.

National Dairy Council, 111 North Canal Street, Chicago
Ney Company, The J. M., 71 Elm Street, Hartford, Conn.
Nobilium Products, Inc., 125 North Wabash Avenue, Chicago
North American Philips Company, Inc., 750 South Fulton Avenue, Mt. Vernon, N. Y.
Novocol Chemical Manufacturing Company, Inc., 2911-23 Atlantic Avenue, Brooklyn, N. Y.

Ohlendorf Orthodontic Laboratory & Supply Company, 3601 Gravois, St. Louis
Oral B Company, 315 South First Street, San Jose, Calif.
O'Rourke Diamond Company, 601 South Vermont, Los Angeles

Parke, Davis & Company, Detroit
Peerless Appliance Company, Inc., 126 Eleventh Avenue, New York
Pelton & Crane Company, The, 632 Harper Avenue, Detroit
Pfingst & Company, Inc., 62 Cooper Square, New York
Pfizer & Co., Inc., Chas., 630 Flushing Avenue, Brooklyn, N. Y.
Philosophical Library, 15 East 40th Street, New York
Plastodent, Inc., 1310-12 Jerome Avenue, New York
Poloris Company, Inc., 109 Academy Street, Jersey City, N. J.
Precious Metals Research Works, Inc., 230 West 41st Street, New York
Premier Dental Products, 1001 Chestnut Street, Philadelphia
Professional Budget Plan, Madison
Professional Dental & Manufacturing Company, 4906 North Ridgeway Avenue, Chicago
Prometheus Electric Corporation, The, 50 Webster Avenue, New Rochelle, N. Y.
Pro-phy-lac-tic Brush Company, Florence, Mass.
Pycopé Inc., 392 Wayne Street, Jersey City, N. J.

Ransom & Randolph Company, The, 324 Chestnut Street, Toledo, Ohio
Reliance Dental Manufacturing Company, 22 East Van Buren Street, Chicago
Reserve Plan, Inc., 318 Commerce Building, 922 Walnut Street, Kansas City, Mo.

Richmond Dental Cotton Company, P. O. Box 2176, Charlotte, N. C.
Rinn X-Ray Products, Inc., 2929 North Crawford Avenue, Chicago
Ritter Company, Inc., 400 West Avenue, Rochester, N. Y.
Rocky Mountain Metal Products Company, 1450 Galapago Street, Denver
Rota-Seat, Inc., 4606 West 21st Street, Cicero
Rower Dental Supply Company, 120 Boylston Street, Boston

Saunders Company, W. B., West Washington Square, Philadelphia
Schaefer, Oskar, 1 Wilkinson Avenue, Jersey City, N. J.
Smith & Son Manufacturing Company, Lee S., 842 North Wells Street, Chicago
Squibb, E. R., 745 Fifth Avenue, New York
Stalite, Inc., 34 Union Square, New York
Star Dental Manufacturing Company, Inc., 58th and Market Streets, Philadelphia
Stern & Company, Inc., I., 320 Washington Street, Mt. Vernon, N. Y.
Stratford-Cookson Company, 4058 Haverford Avenue, Philadelphia
Surgident, Ltd., 2124 South Sepulveda Boulevard, West Los Angeles, Calif.

Ticonium, 413 North Pearl Street, Albany, N. Y.
Tiffany Diamond Instruments, 6820 Day Street, Tujunga, Calif.
Toledo Dental Products Company, The, 1009 Jackson Street, Toledo
Torit Manufacturing Company, 292 Walnut Street, St. Paul

Union Broach Company, Inc., 37 West 20th Street, New York
Union Dental Company, 3201 Arch Street, Philadelphia
Universal Dental Company, 48th and Brown Streets, Philadelphia
Universal X-Ray Products, Inc., 1140 North Western Avenue, Chicago

Vestal, Incorporated, 4963 Manchester Avenue, St. Louis

Walden Industries, Inc., 350 West 50th Street, New York
Wallace & Tiernan Company, Inc., 1 Main Street, Belleville, N. J.
Weber Dental Manufacturing Company, The, 2206 13th Street, N.E., Canton, Ohio
Wernet Dental Manufacturing Company, Inc., 105 Academy Street, Jersey City, N. J.
Whip-Mix Corporation, 411-415 West Avery Avenue, Louisville Ky.
Whitehall Pharmacal Company, 22 East 40th Street, New York
White Dental Manufacturing Company, The S. S., 211 South 12th Street, Philadelphia
Wilmot Castle Company, 1255 University Avenue, Rochester, N. Y.
Woolf & Co., Inc., H., 529 South Franklin Street, Chicago

X-Ray Manufacturing Corporation of America, 222 Bowery, New York

Young Dental Manufacturing Company, 4958-69 Suburban R. W., St. Louis

Z. F. Manufacturing Company, Inc., 9207 Flatlands Avenue, Brooklyn, N. Y.

Meetings of A. D. A. Agencies

Board of Trustees • Hotel Jefferson, Room No. 8, September 1 to 11.

Council on Constitution and Bylaws • Hotel Jefferson, Room No. 3, September 7, 9 A.M. to 5 P.M.

Council on Dental Health: Conference on Dental Health Problems • Hotel Jefferson, Crystal Room, September 6, 9 A.M. to 5 P.M.

Council on Scientific Session: Meeting with Section Officers • Hotel Statler, September 7, 8 A.M. (breakfast meeting)

Council on Scientific Session: Reception for Clinicians and Essayists • Hotel Statler, September 8, 5 to 7 P.M.

House of Delegates • Hotel Jefferson, Gold Room, September 8, 10 and 11.

Past Presidents' Luncheon • Hotel Jefferson, Room No. 2, September 10, 12 NOON.

State Society Officers Conference • Hotel Jefferson, Crystal Room, September 7, 9 A.M. to 5 P.M.

State Society Officers Luncheon • Hotel Jefferson, Ivory Room, September 7, 12:30 P.M.

Council on Relief: Meeting with State Society Officers • Hotel Jefferson, September 10, 8 A.M. (breakfast meeting)

Meetings of Groups in the Dental Field

Advisory Board of Dental Specialists • Hotel Jefferson, September 7. Alvin H. Grunewald, National Medical Center, U. S. Naval Dental School, Bethesda, Md., secretary.

American Academy of the History of Dentistry • Hotel Jefferson, September 6. Harold L. Faggart, Temple University School of Dentistry, Philadelphia, secretary.

American Academy of Periodontology • Hotel Statler, September 4 to 6. Clarke E. Chamberlain, 115 North Street, Peoria, Ill., secretary.

American Association of Dental Editors • Hotel Jefferson, September 6. Walter C. McBride, 660 Fisher Building, Detroit, secretary.

American Association of Dental Examiners • Hotel Lennox, September 5 and 6. Carl L. Bumstead, 924 Stuart Building, Lincoln, Neb., secretary.

American Association of Dental Schools • Hotel Statler, September 7. Marion W. McCrea, 42 South Greene Street, Baltimore, secretary.

American Association of Public Health Dentists • Hotel Lennox, September 7. Robert A. Downs, 220 Kittridge Building, Denver, secretary.

American College of Dentists • Hotel Statler, September 7. Otto W. Brandhorst, 4952 Maryland Avenue, St. Louis, secretary.

American Dental Assistants Association • Sheraton Hotel, September 8 to 11. Mary L. Martin, 410 First National Bank Building, La Porte, Ind., executive secretary.

American Dental Hygienists Association • DeSoto Hotel, September 7 to 11. Margaret E. Swanson, 1735 Eye Street, N.W., Washington, D. C., executive secretary.

American Denture Society • Sheraton Hotel, September 5 and 6. Arthur L. Roberts, Aurora National Bank Building, Aurora, Ill., secretary.

American Society of Dentistry for Children • Hotel Melbourne, September 6 and 7. Henry M. Wilbur, 129 East Broadway, Louisville, Ky., secretary.

Association of American Women Dentists • Mark Twain Hotel, September 7 to 11. Florence Rich, 6508 Delmar Boulevard, St. Louis, secretary.

International College of Dentists • Hotel Statler, September 7. Elmer S. Best, 801 Medical Arts Building, Minneapolis, recorder.

National Association of Seventh Day Adventist Dentists • De Soto Hotel, September 5 to 7. Franklyn C. Nelson, 313 Progress Bulletin Building, Pomona, Calif., secretary.

Meetings of Fraternal Groups

Alpha Omega • Hotel Statler, September 8. Bernard E. Gruber, 147 West 42nd Street, New York, secretary.

Delta Sigma Delta • Chase Hotel, September 5 to 8. S. G. Applegate, 4660 Buckingham Road, Detroit, scribe.

Psi Omega • De Soto Hotel, September 8. Irving M. Stransky, 59 East Madison Street, Chicago, recorder.

Xi Psi Phi • Mark Twain Hotel, September 8. William E. Koch, Jr., 615 Metropolitan Building, St. Louis, secretary.

Social Events

PRESIDENT'S DINNER

President LeRoy M. Ennis will be honored at the President's Dinner on Wednesday, September 10, in the Gold Room of the Jefferson Hotel. Music and a program of entertainment will be presented by Jack Morton's orchestra, which entertained last year at the Association's meeting in Washington, D. C. Preceding the 7:30 dinner, a dutch treat cocktail hour will be held in the Ivory Room of the Hotel.

Banquet tickets are $6.00 per plate and accommodations limited. Guests will be seated eight to a table and reservations will be made in the order requests are received. Members who plan to attend are advised to assure their reservation by mailing their requests and checks to James Brophy, executive secretary of the St. Louis Dental Society, 8013 Maryland Avenue, St. Louis.

MISSISSIPPI STEAMBOAT TRIP

An evening trip on the Mississippi River is planned for Monday, September 8. The steamer *Admiral* will depart at 9:45 P.M., thus allowing time for the arrival of late diners. There will be entertainment, dancing and refreshments on board the boat. Tickets are $1.50 and may be obtained from the St. Louis Dental Society headquarters.

LUNCHEON AND STYLE SHOW

A luncheon and style show will be held at noon Tuesday, September 9, at the Chase Club of the Hotel Chase. Some of St. Louis' best-known dress salons will show autumn styles. Transportation will be provided. Tickets will be $4.00. Women who plan to attend the annual session may assure their reservations at this event by mailing their requests and checks to the St. Louis Dental Society headquarters, 8013 Maryland Avenue, St. Louis.

PAST PRESIDENTS' LUNCHEON

The Past Presidents' Club of the American Dental Association will hold its annual luncheon at 12 noon Wednesday, September 10, at the Jefferson Hotel. Further information may be obtained by writing to Philip E. Adams, secretary, 106 Marlborough St., Boston.

DENTISTS' GUILD MASS

The St. Appolonia Guild will attend a special Mass at the Old Cathedral at 8:00 A.M., Wednesday, September 10. The Rev. P. J. Hallorand, former president of St. Louis University, will deliver the sermon.

ALUMNI LUNCHEONS

The St. Louis dental schools plan to hold alumni luncheons on Tuesday, September 9. Washington University's luncheon will be held at the Hotel DeSoto, and St. Louis University's luncheon in the refectory of the Kiel Auditorium. All alumni are invited.

FOREST PARK ZOO SHOW

The trained animals at the Forest Park Zoo, St. Louis' famous "showmanship zoo," will be put through their vaudevillian paces at a special afternoon performance for Association guests on Wednesday, September 10. Admission is free.

SIGHTSEEING TOURS

The Anheuser-Busch Company will conduct tours through its brewery several times daily. Gray Lines will also arrange daily sightseeing tours; tickets for these will be available at information centers at the meeting.

GOLF TOURNAMENT

The annual golf tournament of the American Dental Golf Association will be conducted September 8 at the Norwood Hills Country Club, St. Louis. Following the tournament, a dinner will be held at the Club and prizes and trophies will be awarded. Dentists who wish to participate may register on the mezzanine floor of the Park Plaza Hotel, September 6-7.

The Calcutta Pool Cocktail Party and Dinner, an event for men only, will be held at 6:00 P.M. Sunday, September 7 in the DeSoto Hotel.

FRATERNITY DINNERS

On the opening night of the annual session, September 8, the following fraternities will meet at dinner:

Alpha Omega, Hotel Statler
Delta Sigma Delta, Hotel Chase
Psi Omega, Hotel DeSoto
Xi Psi Phi, Hotel Mark Twain

House of Delegates

Lyons, Harry, Medical College of Virginia, Richmond, Va., speaker pro tem.
Hillenbrand, Harold, 222 East Superior Street, Chicago, secretary

Ex-officio members

Ennis, LeRoy M., 4001 Spruce Street, Philadelphia, president
Brandhorst, Otto W., 4952 Maryland Avenue, St. Louis, president-elect
*Fitzgibbon, David J., 601 19th Street, N.W., Washington, D. C., first vice-president
Cunningham, Perley M., 510 Hynds Building, Cheyenne, Wyo., second vice-president
Snyder, Oscar P., Walter Reed Army Medical Center, Washington, D. C., third vice-president
Washburn, H. B., Lowry Medical Arts Building, St. Paul, treasurer
Morrey, Lon W., 222 E. Superior Street, Chicago, editor

Trustees

Alstadt, William R., 610 Boyle Building, Little Rock, Ark.
Kingsbury, Bernerd C., 490 Post Street, San Francisco
*Phillips, Percy T., 18 E. 48th Street, New York
Renouard, Clarence S., 304 Phoenix Building, Butte, Mont.
Craig, W. Earle, 8113 Jenkins Arcade, Pittsburgh
Jacob, L. H., Jefferson Building, Peoria, Ill.
John, James E., Medical Arts Building, Roanoke, Va.
Lynch, Daniel F., 1678 Primrose Road, N.W., Washington, D. C.
Moen, Obed H., Watertown, Wis.
Carr, J. B., Hume Mansur Building, Indianapolis
Foster, C. S., Dows Building, Cedar Rapids, Iowa
Taggart, Charles I., 139 Bank Street, Burlington, Vt.
Thomas, Robert P., Francis Building, Louisville, Ky.

Past Presidents

Brown, Homer C., 1816 Franklin Avenue, Columbus
Volland, Roscoe H., First National Bank Building, Iowa City
Casto, Frank M., 801 Silverado Street, La Jolla, Calif.
Miner, LeRoy M. S., 363 Marlborough Street, Boston
Camalier, C. Willard, 1726 Eye Street, N.W., Washington, D. C.
Ward, Marcus L., 1308 Cambridge Road, Ann Arbor, Mich.
Merritt, Arthur H., 580 Fifth Avenue, New York
*Oliver, Oren A., 1915 Broadway, Nashville, Tenn.
Robinson, J. Ben, 618 Lombard, Baltimore
*Wells, C. Raymond, One DeKalb Avenue, Brooklyn
Mead, Sterling V., 1149 16th Street, N.W., Washington, D. C.
Washburn, Harvey B., 488 Lowry Medical Arts Building, St. Paul
Minges, Clyde E., Peoples Bank Building Rocky Mount, N. C.
Adams, Philip E., 106 Marlborough Street, Boston
*Oppice, Harold W., 1002 Wilson Avenue, Chicago

*Serving as an elected delegate.

Members

ALABAMA

Delegates

Goodwin, W. E., 309 First National Bank Building, Montgomery
Kirkland, Olin, 722 Shepherd Building, Montgomery
Llewellyn, M. L., 502 Philipson Building, Gadsden
McGavock, R. J., 914 Woodward Building, Birmingham

Alternates

Strong, L. B., Jr., 2911½ North 27th Street, Birmingham
Wood, W. A., 1508 Merchants Bank Building, Mobile
Dillon, L. B., 916 Woodward Building, Birmingham
Goodall, Robert E., Philipson Building, Gadsden

ARKANSAS

Delegates

Hardage, Paul, Arkadelphia
Smith, Thermon B., 610 Boyle Building, Little Rock
Hamm, Don M., Clarksville

Alternates

Golden, Roy F., Arkadelphia
Bucy, Roy S., Rector
Flickinger, H. M., Siloam Springs

CALIFORNIA

Delegates

Benediktson, John B., 1624 Franklin Street, Oakland
DeWitt, Roscoe H., 1624 Franklin Street, Oakland
Hambly, Harry B., Jr., 2215 Chestnut Street, San Francisco
Harrison, Walter C., 209 Post Street, San Francisco
Hicok, E. L., 348 Market Street, Colusa
Leach, Edmund J., 464 South Main Street, Salinas
Love, Edward L., 145 East 4th Street, Pittsburgh
Ludwigsen, Lawrence R., 450 Sutter Street, San Francisco
Schraft, Robert O., 450 Sutter Street, San Francisco
Sheppard, Clyde C., 2628 Telegraph Avenue, Berkeley
Soderstrom, Ernest F., Beatty Building, Modesto
Temple, Leonard F., 1904 Franklin Street, Oakland
Taber, Loren B., 450 Sutter Street, San Francisco

Alternates

Aubertine, Don Jose, 760 Market Street, San Francisco
Fleming, Willard C., University of California, College of Dentistry, 3rd and Parnassus Avenues, San Francisco
Kingsbury, Bernerd C., Sr., 490 Post Street, San Francisco
Oulliber, V. John, 3798 Twenty-fifth Street, San Francisco
Horner, Donald B., 706 American Trust Building, Berkeley

SOUTHERN CALIFORNIA

Delegates

Openshaw, Rulon W., 6703 Melrose Avenue, Los Angeles
Tylicki, B. M., 547 East Broadway, Long Beach
Rounds, Jack, 3875 Wilshire Boulevard, Los Angeles
Hales, Lock, 229 North Central Avenue, Glendale
Wilson, John B., 5225 Wilshire Boulevard, Los Angeles
Jones, J. Lorenz, 405 North Bedford Drive, Beverly Hills
Monia, Walter J., 329 North Wetherly Drive, Beverly Hills
Moss, C. Albert, 1401 South Hope Street, Los Angeles
Tennis, Phillip J., 3875 Wilshire Boulevard, Los Angeles
Harding, J. C. A., 311 Nutmeg Street, San Diego
Paul, Cassius, 325 North Broadway, Santa Ana
Abel, John R., 405 North Bedford Drive, Beverly Hills
Kurtz, Bruce R., 960 East Green Street, Suite 211, Pasadena
Steen, John F., 2290 Sixth Avenue, San Diego
James, Allison G., 409 North Camden Drive, Beverly Hills
Ralston, Melvin E., Medico-Dental Building, Pomona

Alternates

McNulty, Robert, 122 East 16th Street, Los Angeles

Openshaw, Lynn, 1126 Roosevelt Building, Los Angeles
Pincus, Charles L., 9629 Brighton Way, Beverly Hills
Strang, Douglas M., 3875 Wilshire Boulevard, Suite 1205, Los Angeles
Bleecker, Harry, 1625 Chelsea Road, San Marino
Smith, Maurice, 12230 Viewcrest Road, North Hollywood
Skinner, C. N., 603 Bank of America Building, Whittier
Willey, Robert, 3875 Wilshire Boulevard, Los Angeles
Jones, Howard V., 6114 Franklin Avenue, Hollywood
Frame, A. Elmer, 2007 Wilshire Boulevard, Los Angeles
Shriber, J. Donald, 727 West 7th Street, Room 1152, Los Angeles
Metcalf, J. C., 1340 Granada Avenue, San Marino
Waggoner, Rex, 10742 Riverside Drive, North Hollywood
Petty, Edgar A., 135 North Third Street, Burbank
Bowers, James P., 124 West Lime, Monrovia
Cannon, H. E., 606 South Hill Street, Los Angeles

COLORADO

Delegates

Elofson, L. T., Monte Vista
Johnston, Lloyd W., 1108 Republic Building, Denver
Peterson, Fred A., 1477 Pennsylvania Street, Denver
Tidwell, R. Bruce, 936 Metropolitan Building, Denver

Alternates

Dwire, George J., Exchange National Bank Building, Colorado Springs
Downs, Robert A., 1422 Grant Street, Denver
Griffith, Elden R., 808 Grand Avenue, Glenwood Springs
Lewis, L. A., Thatcher Building, Pueblo

CONNECTICUT

Delegates

MacDonald, Alan L., 302 State Street, New London
Chernoff, Phillip M., 154 Broad Street, Middletown
Gillroy, Kenneth M., 77 South Street, Stamford
Arnold, Earle S., 37 Linnard Road, West Hartford
Gengras, Alfred J., Jr., 750 Main Street, Hartford
Harold, Frederic S., 291 Whitney Avenue, New Haven
Beebe, Ira Dow, 886 Main Street, Bridgeport

Alternates

Bray, Joseph A., 15 Grennan Road, West Hartford
Brooks, Clarence G., 302 State Street, New London
Buckley, Clifford J., 144 Golden Hill Street, Bridgeport
Cantor, Louis M., 100 Whitney Avenue, New Haven
Fitch, Avery W., 140 State Street, New London
Monks, Leon C., 781 Chapel Street, New Haven
Peterson, Clarence E., 9 Elm Street, Rockville

DELAWARE

Delegates

Musselman, Paul, 143 West Main Street, Newark, Delaware
Nelson, Clyde, Milford

Alternates

Kreshtool, Louis, 815 West Street, Wilmington
Mach, Joseph, Seaford

DISTRICT OF COLUMBIA

Delegates

O'Keefe, John A., 1801 K Street, N.W., Washington, D. C.
Leifer, Edward D., 508 Colorado Building, Washington, D. C.
Fitzgibbon, David J., 601 19th Street, N.W., Washington, D. C.
Reilly, J. Garrett, 2401 North Capitol Street, Washington, D. C.

Alternates

Krogh, Harold W., 1835 Eye Street, N.W., Washington, D. C.
Smallwood, W. Lawrence, 910 17th Street, N.W., Washington, D. C.
Michaels, Manly, 915 19th Street, N.W., Washington, D. C.

FLORIDA

Delegates

Brown, Coleman T., 602 Citizens Building, Tampa
Kellner, A. W., P. O. Box 155, Hollywood
Meyer, Frank P., 602 Hall Building, St. Petersburg

Schulstad, L. M., 601 Professional Building, Bradenton
Todd, John I., 433 St. James Building, Jacksonville

Alternates

Hughlett, Robert B., 5420 Florida Avenue, Tampa
Gillespie, Rupert H., 609 Citizens Bank Building, West Palm Beach
Taylor, R. P., Jr., 415 St. James Building, Jacksonville
Thoburn, Robert, 227 Orange Avenue, Daytona Beach
Wilson, Byron G., 1700 MacDill Avenue, Tampa

GEORGIA

Delegates

Banks, William H., Montezuma
Garrett, William A., 833 Candler Building, Atlanta
Tuck, Albert C., Thomasville
Wilson, F. H., Griffin

Alternates

Maxwell, Vaughn, 623 Greene Street, Augusta
Yarbrough, C. A., Bibb Building, Macon
Yarbrough, Sidney, Medical Arts Building, Columbus
Johnston, Charles L., Canton

ILLINOIS

Delegates

Zinser, Melford E., 55 East Washington Street, Chicago
Mahoney, J. E., 218 East Ferguson Avenue, Wood River
Clopper, Paul W., 623 Jefferson Building, Peoria
Gresens, Werner J., 1011 Lake Street, Oak Park
Cruse, Milton, 1977 West 111th Street, Chicago
Dundon, Walter E., 111 North Wabash Avenue, Chicago
Ebert, Elmer, 10058 Ewing Avenue, Chicago
Hax, George W., 8 South Michigan Avenue, Chicago
Hughes, L. W. Michael, 55 East Washington Street, Chicago
Keith, James H., 636 Church Street, Evanston
Lindholm, Eric R., 2307 East 79th Street, Chicago
Oppice, Harold W., 1002 Wilson Avenue, Chicago
Tolar, William F., 6804 Windsor Avenue, Berwyn
Wenger, Herman R., 5601 West Irving Park Road, Chicago
Zielinski, Joseph B., 3147 Logan Boulevard, Chicago
Akerly, G. W., Milford
Brandhorst, A. W., 507 Commercial Building, Alton
Bunch, J. L., 605 Farmers Bank Building, Jacksonville
Graham, F. W., Jr., 822 West Fremont Avenue, Morris
Harrison, C. W., 118 South Seminary Street, Collinsville
Orendorff, A. G., 322 Unity Building, Bloomington
Steck, Ben A., 201 Safety Building, Rock Island
Tarpley, Hugh M., W. C. U. Building, Quincy
Vermeulen, Frank J., 610 State Trust Building, Moline
Zwisler, John A., 189 East Court Street, Kankakee

Alternates

Wlodkowski, P. A., 2349 North Western Avenue, Chicago
Daily, J. W., 113 North Neil Street, Champaign
Becherer, C. K., 223 East Washington Street, East Peoria
Boothe, Russell G., 4753 Broadway, Chicago
Carlton, J. R., 2612 East 75th Street, Chicago
Cahill, Leo J., 108 South Pulaski Road, Chicago
Miller, Guy M., 715 Lake Street, Oak Park
Gould, Gerson M., 755 North Ashland Avenue, Chicago
Cotter, S. W., 25 East Washington Street, Chicago
Boulger, Earl P., 27 South Pulaski Road, Chicago
Hayes, Harold H., 2376 East 71st Street, Chicago
Chronquist, H. W., 636 Church Street, Evanston
Kanchier, Paul, 9300 Cottage Grove Avenue, Chicago
Silberhorn, Otto W., 311 East Chicago Avenue, Chicago
New, Harland L., 309 Touhy Avenue, Park Ridge
Tym, W. B., Johnston Block, Charleston
Vickers, Earl K., Granite City
King, A. Richard, 808 Ridgely Building, Springfield
Burt, Holmes C., 12 Neustadt Building, LaSalle
Ozburn, Glenn W., 108 North 14th Street, Murphysboro
Rost, T. A., 333 Unity Building, Bloomington
Guy, M. D., Aledo

Fell, R. H., 211 Hill Arcade, Galesburg
Graham, Ralph W., Annawan
Baldridge, J. Phillip, 32 South River Street, Aurora

INDIANA

Delegates

Baker, Frederick C., 508 Calumet Building, Hammond
Crum, Walter A., 514 West Main Street, Richmond
Ewbank, E. E., Box 96, Kingman
Asher, Paul H., 3801 Broadway, Gary
Griswold, J. H., 218 Medical Arts Building, Richmond
Leavell, Fred W., 326 Burr Building, New Castle
Hine, Maynard K., 1121 West Michigan Street, Indianapolis
McNulty, Wilbur P., 3501 South Harrison Street, Fort Wayne

Alternates

Jones, Chester W., 716 Anderson Bank & Trust Company Building, Anderson
Hall, J. Frank, 445 North Pennsylvania Street, No. 801, Indianapolis
Smiley, T. Charles, 301 Peoples Bank & Trust Building, Washington
Naus, J. H., Sr., 804 Building & Loan Tower, South Bend
Kelly, W. N., 806 Blackman, Clinton
Beeson, John H., 103½ North Washington Street, Crawfordsville
Mayfield, C. T., 306 Armstrong Landon Building, Kokomo
Risk, Paul A., 401 Schultz Building, Lafayette

IOWA

Delegates

Pillars, F. W., 808 Equitable Building, Des Moines
Stonebrook, H. W., Eldora
Berney, J. E., 425 Davenport Bank Building, Davenport
Willits, H. M., 719 Roshek Building, Dubuque
Goen, D. J., Manchester
Foster, J. E., Hampton
Anderson, G. C., Avoca

Alternates

Wilson, H. I., 639 Insurance Exchange Building, Des Moines
Eaton, E. M., 1011 American Trust Building, Cedar Rapids
Hoffman, K. R., Algona
Scott, W. L., I. S. Savings Bank Building, Clinton
Altfillisch, H. J., Roshek Building, Dubuque
Bridges, F. C., Storm Lake
Paule, W. H., Medical Arts Building, Burlington

KANSAS

Delegates

Richmond, Fred A., 861 Brotherhood Building, Kansas City
Carothers, Frank C., Carter Building, Garnett
Lucas, J. Wesley, 1011 First National Bank Building, Wichita
Stalker, Clinton L., 727 Mills Building, Topeka

Alternates

Edwards, Harold J., A. C. Office Building, Arkansas City
Robison, Homer B., Wiley Building, Hutchinson
Teall, Gordon L., Hiawatha
Bunker, Herbert L., Junction City

KENTUCKY

Delegates

Walker, John L., 640 Barbee Way, South, Louisville
Wilson, O. D., Masonic Building, Owensboro
Coomer, O. B., 1006 Heyburn Building, Louisville
Coxwell, A. B., 1976 Douglass Boulevard, Louisville
Kelly, J. J., Franklin

Alternates

Vogt, F. S., 1903 Bardstown Road, Louisville
Willis, E. A., 115 East 4th Street, Owensboro
Bach, M. T., 300 East 3rd Street, Newport
Broering, L. J., 340 Fairfield Avenue, Bellevue
Prewitt, George H., 504 Bank of Commerce, Lexington

LOUISIANA

Delegates

Earnest, J. C., Bernhardt Building, Monroe
Smith, Alfred E., 1936 South Carrollton Avenue, New Orleans
McHardy, Colin A., 308-311 Guaranty Income Life Building, 929 Government Street, Baton Rouge
Smith, J. Melville, III, 1224 Maison Blanche Building, New Orleans

Alternates

Isom, D. R., Medical Arts Building, Shreveport
Wolfe, F. J., Sr., Maison Blanche Building, New Orleans

Bernhard, Julian S., 2515 Line Avenue, Shreveport
Marquer, Victor B., 1407 South Carrollton Avenue, New Orleans

MARYLAND

Delegates

Gregory, A. W., 3136 Harford Road, Baltimore
Stone, E. D., Jr., Medical Arts Building, Baltimore
Shehan, D. E., Medical Arts Building, Baltimore
Bell, A. I., Medical Arts Building, Baltimore

Alternates

Robinson, J. Ben, University of Maryland Dental School, Baltimore
Clendenin, G. B., 4406 East-West Highway, Bethesda
Leonard, R. C., 2411 North Charles Street, Baltimore
Chanaud, N. P., Centreville

MASSACHUSETTS

Delegates

Kepnes, Benjamin, 344 Main Street, Hyannis
Rogell, Bernard C., 6 Pleasant Street, Malden
Grossman, Maurice F., 301 Essex Street, Lawrence
Tingley, Harold E., 12 Bay State Road, Boston
Nagle, Raymond J., 354 Commonwealth Avenue, Boston
Bommer, Arno M., 349 Broadway, Revere
Mayne, Warren R., 218 Essex Street, Salem
Doherty, Edward A., 26 Taunton Green Building, Taunton
Bates, Francis C., 453 Adams Street, Milton
Marx, William C., 316 High Street, Holyoke
Muzzey, Ivor P., Starratt Building, Athol
Ahern, Wendell G., 18 Bank Row, Pittsfield
Brown, George Cowles, 332 Main Street, Worcester

Alternates

Adams, Richard M., Mill Pond Road, Chatham
Killilea, John F., 6 Pleasant Street, Malden
Riley, William A., 180 Essex Street, Lawrence
Rounds, Charles Elder, 403 Commonwealth Avenue, Boston
Chadbourne, Bailey P. B., 350 Commonwealth Avenue, Boston
Rosenfield, Jack L., 79 Washington Avenue, Chelsea
Keach, Frederick P., 219 Essex Street, Salem
Query, Alphonse W., South Street, Marion
Ludlow, Clarence E., 857 Washington Street, South Braintree
Moran, John F., 44 Vernon Street, Springfield
Desmond, J. Walter, 9 Pleasant Street, Ayer
Seaman, Walter R., 69 Federal Street, Pittsfield
Tyler, John E., 311 Main Street, Worcester

MICHIGAN

Delegates

Brooks, G. R., First National Bank Building, Rochester
Diedrich, A. V., 14015 Gratiot Avenue, Detroit
Donnelly, A. J., 406 Muskegon Building, Muskegon
Harling, C. W., 15510 Mack Avenue, Grosse Pointe Park
Hart, R. A., 427 North Michigan Avenue, Saginaw
Jesson, S. P., 19431 Van Dyke Avenue, Detroit
Klinesteker, R. E., 216 Metz Building, Grand Rapids
Lowther, A. H., 28 West Adams Avenue, Detroit
Ostrander, F. D., School of Dentistry, University of Michigan, Ann Arbor
Shehan, H. L., 601 Jackson City Bank Building, Jackson
Short, J. R., 703 Kalamazoo National Bank Building, Kalamazoo
Teal, D. M., 1 Mechanic Street, Yale
Walmoth, R. W., 28 West Adams Avenue, Detroit
Wertheimer, Fred, Michigan Department of Health, Lansing

Alternates

Schied, E. L., 507 West Michigan, Jackson
Champagne, J. L., 3714 West McNichols Road, Detroit
Mann, William, School of Dentistry, University of Michigan, Ann Arbor
Easlick, K. A., School of Dentistry, University of Michigan, Ann Arbor
Schachern, J. Keith, 26½ West Huron Street, Pontiac
Blackerby, Philip, W. K. Kellogg Foundation, Battle Creek
Leavitt, T. J., Jr., 1208 Bank of Lansing Building, Lansing
Seligson, David, 2102 Broderick Tower, Detroit
Perry, Chester, 16350 East Warren Avenue, Detroit
Sawicki, A. C., 7012 Michigan Avenue, Detroit

Southard, T. R., First National Bank Building, Manistique
Leitch, M. A., 14807 West McNichols Road, Detroit
Wright, J. K., 201 State Bank Building, Traverse City
Burkman, N. W., 213 Wabeek Building, Birmingham

MINNESOTA

Delegates

Wilson, D. W., Belle Plaine
Hosterman, F. P., 1025 West Broadway, Minneapolis
Mackay, D. R., 925 Lowry Building, St. Paul
MacQueen, W. W., 805 Physicians and Surgeons Building, Minneapolis
Peterson, Clifford J., Mankato
Eberhardt, H. S., 1111 Nicollet Avenue, Minneapolis
Pike, Joe M., 811 Medical Arts Building, Minneapolis
Hall, A. B., 681 East Wheelock Parkway, St. Paul
East, C. D., 5701 Grand Avenue, Duluth
Sheridan, G. D., 202 Choate Building, Winona
Monson, H. M., 602½ Center Ave., Moorhead

Alternates

Cassel, Carl V. E., 242 Lowry Building, St. Paul
Larson, Frans, 1632 N. E. Washington Avenue, Minneapolis
Dickson, W. A., 1535 Medical Arts Building, Minneapolis
Colby, Henry E., 1850 Medical Arts Building, Minneapolis
Ernst, M. E., 1250 Lowry Building, St. Paul
Tangwall, H. V., 309 Bradley Building, Duluth
Franta, V. A., Mahnomen
Sitz, C. D., 122 Mill Street, Austin
Gardner, H. E., Browerville
Hyde, Walter, 434 LaSalle Building, Minneapolis
Wenberg, R. L., Mountain Lake

MISSOURI

Delegates

Brock, David W., 6026 Enright Avenue, St. Louis
Main, L. R., 3556 Caroline Street, St. Louis
Kornfeld, Max, Missouri Theatre Building, St. Louis
Haun, B. O., Missouri Theatre Building, St. Louis
Ebeling, Paul, 2114 East Grand Avenue, St. Louis
Schopper, A. Frank, 914 Professional Building, Kansas City
Porter, C. G., 255 Plaza Bank Building, Kansas City
White, W. W., 6333 Brookside Plaza, Kansas City
Weedin, James E., 310 Tootle Building, St. Joseph
Rhoades, Reuben R., 201-202 Merchants Bank Building, Jefferson City

Alternates

Smartt, J. Findley, 2867a Union Boulevard, St. Louis
Freitag, Otto F., 555 Stratford Avenue, St. Louis
Martin, Ruth, 4559 Scott Avenue, St. Louis
Behrens, Theodore, 1015 Paul Brown Building, St. Louis
Eckhardt, Walter, 932 Arcade Building, St. Louis
Ross, Gordon L., 926 Professional Building, Kansas City
Frost, Ralph, 512 Bryant Building, Kansas City
Hamilton, Bates, 1107 Bryant Building, Kansas City
Haas, William A., 411 Tootle Building, St. Joseph
Holt, Charles, 503 Medical Arts Building, Springfield

MONTANA

Delegates

Currey, R. D., Dillon
Beveridge, C. D., Hart-Albin Building, Billings

Alternates

Taylor, G. C., Billings
Bowden, P. H., Phoenix Building, Butte

NEBRASKA

Delegates

Paynter, F. L., 607 Medical Arts Building, Omaha
Pierson, F. A., 1112 Federal Securities Building, Lincoln
Lamphere, W. W., 2720 "O" Street, Lincoln
Myers, L. E., 1229 Medical Arts Building, Omaha
Sittler, W. G., Gordon

Alternates

Krim, J. G., 513½ Court Street, Beatrice
Herbst, A. P., Norfolk
Johnston, G. R., 1024 Stuart Building, Lincoln

Baker, C. E., David City
Murray, M. J., Sidney

NEVADA

Delegate

Cafferata, H. E., First National Bank Building, Reno

Alternate

Nelson, L. M., Medical Dental Building, Reno

NEW JERSEY

Delegates

Saporito, Louis A., 15 Washington Street, Newark
Owens, John S., 407 Cooper Street, Camden
Westcott, Eugene R., Mayfair Apartments, Atlantic City
Nelson, Alfred W., 196 The Plaza, West Englewood
Burns, James R., 46 South Olden Avenue, Trenton
Lyons, Stephen M., 382 Springfield Avenue, Summit
Giblin, William A., 85 Park Street, Montclair
Quirk, Pierce A., 921 Bergen Avenue, Jersey City
Newman, Eugene W., 16 Wallace Street, Red Bank
Galdieri, D. J., Park Square Building, Morristown
White, Edward R., 921 Bergen Avenue, Jersey City
Gindin, Jac P., 280 Hobart Street, Perth Amboy
Lentz, Maxwell J., 653 Main Avenue, Passaic
Rosenwasser, Ben, 4809 Bergenline Avenue, Union City
Champlin, T. R., 525 Park Avenue, Plainfield

Alternates

Fitzsimmons, Leslie J., 144 South Harrison Street, East Orange
White, George J., 12 Broad Street, Riverton
Brown, Benjamin A., 2701 Pacific Avenue, Atlantic City
Heydon, Luther A., 78 Central Avenue, Hackensack
Harkrader, Milton K., 203 Lawrence Avenue, Westfield
Burroughs, C. E., 382 Springfield Avenue, Summit
Paul, Frank, 148 Central Avenue, Montclair
Zlonczewski, Edward B., 562 Jersey Avenue, Jersey City
Campi, John G., Medical Arts Building, Asbury Park
Lowy, Richard, 302 Main Street, Chatham
Weaver, J. Ward, 47 South Main Street, Pleasantville
Levy, Milton A., 18 Hamilton Street, Bound Brook
Crowe, Charles P., 521 Main Street, East Orange
Wilson, Walter A., 28 Duncan Avenue, Jersey City
Powers, Thomas F., 819 Park Avenue, Plainfield

NEW MEXICO

Delegates

Eilar, J. S., Medical Arts Square, Albuquerque
Voda, Isadore, Las Vegas

Alternates

Eller, C. A., First National Bank Building, Albuquerque
Clarke, J. J., Jr., Artesia

NEW YORK

Delegates

Abeloff, A. J., 8638 Bay Parkway, Brooklyn
Back, Philip, 237 Willis Avenue, New York
Battista, Peter L., 232 Delaware Avenue, Buffalo
Bell, Willard S., 118-02 Rockaway Boulevard, South Ozone Park
Bisnoff, Harry L., 89-21 153rd Street, Jamaica
Blutau, Theodore C., 89 East Avenue, Rochester
Bowne, William C., 107 West Hinds Avenue, Sherrill
Eaton, Leonard J., 115 Park Avenue, Mt. Vernon
Feinman, Jacob, 25 Forest Avenue, Silver Lake, S. I.
Fennelly, William A., 33 West 42nd Street, New York
Feuer, Samuel S., 1119 State Street, Schenectady
Flynn, John T., Harwood Building, Scarsdale
Gale, E. Harold, 142 Washington Street, Albany
Galvin, Edward J., 1417 Hertel Avenue, Buffalo
Goldstein, Max, 81 Centre Avenue, New Rochelle
Greenwood, George D., 1172 Sibley Tower Building, Rochester
Heinze, Robert L., One Hanson Place, Brooklyn
Hoffman, Arthur J., 199-16 111th Avenue, St. Albans
Hoffman, Samuel J., 91 Fulton Avenue, Hempstead
Hyde, William H., 857 Eastern Parkway, Brooklyn

Isaacson, Samuel A., 501 Madison Avenue, New York
Jutton, Daniel, 723-4 State Tower Building, Syracuse
Larrabee, William H., 340 Woolworth Building, Watertown
Lawrence, Harley W., 20 East Market Street, Corning
Lewis, J. Brayton, Pilgrim State Hospital, West Brentwood
Lodico, Louis J., 452 West Church Street, Elmira
McHugh, Francis X., 576 Fifth Avenue, New York
Miller, Donald H., 109 Walnut Street, Elmira
Miller, George W., 619 Union Street, Schenectady
Mork, Waldo H., 501 Madison Avenue, New York
Morse, Arthur, 111-19 103rd Avenue, Richmond Hill
Morse, Roland E., 14 West 49th Street, New York
Pammenter, Elmer J., 92 Pine Grove Avenue, Rochester
Pankow, Charles A., 902 Main Street, Buffalo
Phillips, Percy T., 18 East 48th Street, New York
Pritchard, Griffith G., 130 Woodward Avenue, Buffalo
Riesner, Sidney E., 136 East 36th Street, New York
Roohan, Leo W., 360 Broadway, Saratoga Springs
Schick, Edgar C., 121 North Pearl Street, Albany
Schuyler, Clyde H., 400 Madison Avenue, New York
Snell, Frank S., 81 East Main Street, Patchogue
Squires, Franklin A., 170 Maple Avenue, White Plains
Teich, Isidore, 535 Fifth Avenue, New York
Wagner, Adolph G., 542 Rogers Avenue, Brooklyn
Wells, C. Raymond, 1 DeKalb Avenue, Brooklyn
Whitmarsh, H. DeForest, 49 Front Street, Binghamton
Wilkie, Charles A., One Hanson Place, Brooklyn
Zillmann, Paul W., 29 Walden Avenue, Buffalo
Burns, William McGill, 80 Hanson Place, Brooklyn, N. Y.

Alternates

Abelson, Louis I., 200 West 59th Street, New York
Bedell, Walter R., 49 Market Street, Poughkeepsie
Bissell, Tracy M., 3377 Bailey Avenue, Buffalo
Bowman, Harold D., 89 East Avenue, Rochester
Bowman, Ralph J., 121 East 60th Street, New York
Brewer, William N., 1207 United Office Building, Niagara Falls
Bucci, John T., 505 State Street, Schenectady
Corby, Arthur E., 44 Wall Street, New York
Donally, K. Neil, 18 East 48th Street, New York
Frahm, Gustav P., 35-71 162nd Street, Flushing
Friedman, Joel, 495 Lincoln Place, Brooklyn
Gleason, James P., 458 Chili Avenue, Rochester
Gregory, Clifford C., 53 Chestnut Street, Oneonta
Grindlinger, Paul, 119-04 80th Road, Kew Gardens
Hirschman, H. S., 296 Richmond Avenue, Port Richmond, S. I.
Hunn, David E., 46 Second Street, Troy
Jacobson, Oscar, 35 West 81st Street, New York
Kettenring, Alfred W., 20 South Broadway, Yonkers
Lazarus, C. H., 103 Main Street, Northport
Lindsay, James F., 10 Grand Street, Amsterdam
Lusterman, Edward A., 253 Sunrise Highway, Rockville Centre
McKinnon, Malcolm J., 1056 Sibley Tower Building, Rochester
Meinhardt, Harry R., Box 755, Kingston
Metzger, Frederick J., 306 Brisbane Building, Buffalo
Muir, William M., 126 West Main Street, Gowanda
Nobert, O. E., 220 West Court Street, Rome
O'Brien, Donald, 33-50 158th Street, Flushing
Obst, Joseph J., 8 Seventh Avenue, Brooklyn
Pautler, Arthur J., 207 Bewley Building, Lockport
Reisman, Harry, 40 Monroe Street, New York
Scheiner, Benjamin E., 2665 Grand Concourse, New York
Schlafer, George P., 139 Main Street, Delhi
Schlieder, C. A., Lowville
Shack, Aaron, 1 Nevins Street, Brooklyn
Shapiro, Gerald I., 37 East 36th Street, New York
Spaulding, Ralph L., 236 Broadway, Monticello
Standard, Stanley G., 225 West 34th Street, New York
Stern, Maurice N., 114-06 Queens Boulevard, Forest Hills
Stevens, Walter W., 54 Noxon Street, Poughkeepsie

Strusser, Harry, 919 Flatiron Building, New York
Taub, Herbert L., 88-56 163rd Street, Jamaica
Webb, William R., 3441 79th Street, Jackson Heights
White, Newton E., S. A. & K. Building, Syracuse
Zeitz, Sidney J., One Nevins Street, Brooklyn

NORTH CAROLINA

Delegates

Current, A. C., 612 Commercial National Bank Building, Gastonia
Sheffield, Neal, 304 Dixie Building, Greensboro
Jones, Paul, Farmville
Jackson, Wilbert, Clinton
Poindexter, C. C., 310 Jefferson Building, Greensboro

Alternates

Hunt, R. Fred, P. O. Box 926, Rocky Mount
Pless, Cecil A., 801 Flatiron Building, Asheville
Alford, Frank O., Liberty Life Building, Charlotte
Atwood, T. W., Duke Hospital, Durham
Fitzgerald, Paul, Sr., P. O. Box 538, Greenville

NORTH DAKOTA

Delegates

Pfister, H. H., Dakota Avenue, Wahpeton
Smeby, A. L., Northwood

Alternates

Sand, R. A., 807 North Broadway, Fargo
Bork, R. L., Bismarck

OHIO

Delegates

Creig, R. E., 10465 Carnegie Avenue, Cleveland
Postle, W. D., 1714 North High Street, Columbus
Hebble, C. H., 327 East State Street, Columbus
Jones, E. G., 185 East State Street, Columbus
Steffel, V. L., 19 West Fifth Avenue, Columbus
Pryor, W. J., 1020 Rose Building, Cleveland
Sterling, W. J., 6412 Lorain Avenue, Cleveland
Jarvis, H. C., 716 Mercantile Library, Cincinnati
Lowry, E. D., 79 East State Street, Columbus
Heibert, A. C., 924 Second National Bank Building, Akron
Bach, E. N., 308 Professional Building, Toledo
Connor, P. L., Stambaugh Building, Youngstown
Hoppe, H. J., 4187 Pearl Road, Cleveland
Stark, C. J., 1238 Keith Building, Cleveland
Robinson, H. B. G., Ohio State University, College of Dentistry, Columbus
Smith, H. B., 336 East State Street, Columbus

Alternates

Black, F. W., 835 Doctors Building, Cincinnati
Adair, W. G., 3823 Glenway Avenue, Cincinnati
Aufderheide, P. J., 946 Rose Building, Cleveland
Janke, H. C., 793 East 152nd Street, Cleveland
Stricker, C. H., Doctors Building, Cincinnati
Wylie, W. L., 2165 Adelbert Road, Cleveland
Reiman, H. A., 229 North Market Street, Wooster
Guerink, H. J., 858 Rose Building, Cleveland
Dalton, V. B., 116 Garfield Place, Cincinnati
McDermott, T. J., 821 Rose Building, Cleveland
Boucher, Carl O., 317 Beggs Building, Columbus
Chynoweth, J. L., 63 North Fourth Street, Newark
Newman, L. E., 10616 Euclid Avenue, Cleveland
Reifke, J. T., 912 Rose Building, Cleveland
Sheakley, H. G., 13210 Shaker Square, Cleveland
Schmid, S. A., 1104 Federal Reserve Bank Building, Cincinnati

OKLAHOMA

Delegates

Reichman, F. J., 514 Medical Arts Building, Oklahoma City
Bonnell, A. E., Jr., Surety Building, Muskogee
Pitney, Fred O., Medical Arts Building, Oklahoma City
Warrick, H. O., 602 Broadway Tower, Enid

Alternates

McCracken, C. E., 1307 South Main, Tulsa
Wagner, H. N., Morgan Building, Henryetta
Hess, C. A., 201 North 5th Street, Durant
Matteson, David W., 562 First National Building, Oklahoma City

OREGON

Delegates

Fixott, H. Cline, Jr., Medical Dental Building Portland
Hurley, Willard H., 922 Selling Building, Portland

Krumbein, Herbert, 3905 S. E. Belmont, Portland
Redpath, George W., Medical Dental Building, Portland
Stone, Robert B., U. S. National Bank Building, Corvallis

Alternates

Birkbeck, Thomas, Milton
Crump, John D., Ontario
Fixott, Henry C., Sr., Medical Dental Building, Portland
Gulick, William F., 316 S. E. 80th Street, Portland
Johnson, R. E. 955 Wall Street, Bend

PANAMA CANAL ZONE

Delegate

Slavin, Ovid, Box 415, Balboa

Alternate

Buckley, Frank D., Box 293, Rodman

PENNSYLVANIA

Delegates

Herbine, Frederick W., 230 North 5th Street, Reading
Wade, Walter F., 258 West 10th Street, Erie
Bomberger, Paul E., 116 East Chestnut Street, Lancaster
O'Leary, Joseph T., 112 West Main Street, Girard
Willits, Harry K., 750 North 10th Street, Reading
Hassenplug, E. C., 12 South Front Street, Milton
Timmons, Gerald D., 3223 North Broad Street, Philadelphia
Walls, Raymond M., 48 East Market Street, Bethlehem
Ventura, A. L., 1201 DeKalb Street, Norristown
Knepp, Hollis J., Bezilla Building, Philipsburg
Fusco, John J., 323 Main Street, Reynoldsville
Yerkes, Louis E., 825 Linden Street, Allentown
Clark, Lawrence F., 618 Miners Bank Building, Wilkes-Barre
Everhard, Will D., 305-06 Calder Building, Harrisburg
Looby, John P., 125 South 36th Street, Philadelphia
Reichard, Harry C., Riant Theatre Building, Conshohocken
Bodycomb, R. M., 47 Main Street, Dallas
Zimmerman, Miles D., Warne Clinic Building, Pottsville
Cooper, Herbert K., 26 North Lime Street, Lancaster
MacLaren, Robert J., 423 Main Street, Towanda
Harkins, Cloyd S., 222 Curtin Street, Osceola Mills
Wenk, Karl E., 133 Biddle Street, Kane
McFate, Thomas J., 406 Temple Building, New Castle
Butts, Homer D., Jr., 401 Union Trust Building, Pittsburgh

Alternates

Young, Alfred C., Sr., 121 University Place, Pittsburgh
Patton, Charles H., 235 South 15th Street, Philadelphia
Magriney, A. J., 103 Cocoa Avenue, Hershey
McBride, Thomas F., 4808 Fifth Avenue, Apartment 10, Pittsburgh
Sissman, Isaac, 4041 Jenkins Arcade, Pittsburgh
Murphey, William C., 811 Second National Bank Building, Uniontown
Hess, Lawrence E., 1243 West Allegheny Avenue, Philadelphia
Gahles, Eugene M., Regent Building, Beaver Falls
Eshleman, Jay H., 6414 Germantown Avenue, Philadelphia
Boyle, John O., 1st National Bank Building, Youngwood
Fox, Thomas P., 1930 Chestnut Street, Philadelphia
Borish, Albert L., 255 South 17th Street, Philadelphia
Frank, Victor H., 1800 Pine Street, Philadelphia
Schock, Paul R., 1930 Chestnut Street, Philadelphia
Watson, Howard C., 1101 Edgmont Avenue, Chester
Nash, F. W., 801 Medical Arts Building, Scranton
Albert, Earl H., 821 Chestnut Street, Lebanon
Garvey, Thomas B., 142 North Lime Street, Lancaster
Whittaker, John E., 301 Washington Boulevard, Williamsport
Wicks, Richard T., 800 Johnstown Trust Building, Johnstown
Frisk, Chester J., Crawford Co. Trust Building, Meadville
VanKirk, Lawrence E., University of Pittsburgh, School of Dentistry, Pittsburgh

PUBLIC HEALTH SERVICE

Delegates

Dean, H. Trendley, Director, National Institute of Dental Research, Public Health Service, Bethesda, Maryland

Alternates

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TEXAS

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Rogers, R. L., 908 Fisk Building, Amarillo
Ogle, Willard, 3607 Gaston Avenue, Dallas
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Snider, Raymond D., 1323 Medical Arts Building, Houston
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Alternate

Kennebeck, Marvin E., Colonel, USAF (DC), Assistant for Dental Services, Office of the Surgeon General, Hqs., USAF, Washington, D. C.

U. S. ARMY

Delegate

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Jeffcott, George F., Colonel, DC, Office of the Surgeon General, Department of the Army, Washington, D. C.

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THE Journal OF THE AMERICAN DENTAL ASSOCIATION

Editorial

Preparedness program threatens further drain on dental teachers

The National Advisory Committee to the Selective Service System on June 4 issued an information bulletin to state advisory committees regarding the status of dental faculty members in Priority I and II. Because this bulletin, quoted on page 103 of this issue, may have a profound influence on the production of dental graduates during the next several years, its contents are of vital importance to the profession.

Bulletin No. 7 directs the chairman of state advisory committees to review carefully the cases of dental faculty members who, either as special registrants in Priority I or II are now deferred, or as reservists, with less than twenty-one months of active duty since separation from an ASTP or V-12 course, may have been granted a delay in call to active duty.

Although the bulletin does not prohibit the granting of additional deferment or delay to dental faculty members, it indicates that only those who are essential to the national health, safety and interest through the continuing production of adequately trained graduates of dentistry should be allowed further deferment. It implies that, with few exceptions, individuals in these groups will enter military service during the next twelve months. The bulletin points out that although "it is the intent of the Department of Defense and the Health Resources Advisory Committee of the Office of Defense Mobilization to continue dental education at its present level insofar as possible . . . it is not the thinking of the Health Resources Advisory Committee (National Advisory Committee) that any avenue or approach be established for evasion of the obligations of those in Priority I or II under Public Law 779."

Thus pressure gradually grows greater for more military personnel and perhaps the pressure is justified as the end of the war in Korea is nowhere in sight and the European picture grows blacker. However, even though these emergency conditions exist

they do not warrant the further dilution of America's dental teaching staffs. More than 200 openings now exist for qualified dental teachers and many instructors are doubling in brass so that their schools may maintain their teaching schedule.

Although the Association agrees that no avenue should be established for evasion of the obligations of dentists under Public Law 779, it insists that in every instance where a dental faculty member is liable for military service his usefulness as a teacher should be weighed carefully against his potential as an operator in military service.

Furthermore, whenever a faculty member is declared essential for teaching purposes he should not be excused, but merely deferred, from military service until a satisfactory substitute is secured to relieve him. Dental deans have an obligation to try to secure replacements for their deferred faculty so that such members may serve their hitch in the Armed Forces. Older practicing dentists who have had teaching experience have the obligation of making their availability known to dental deans so that they may serve as replacements for the younger men until the latter return to reassume their teaching positions.

Distorted quotations from dental scientific literature makes poor advertising copy

The practice of some individuals and organizations of attempting to win friends and influence people by methods considered irregular has long irritated members of the profession. Of particular concern is the offender who floods the dentist's mail with pseudoscientific literature intended to enlist his support in promoting the greater use of certain health and commercial products. One of the most common offenders, of course, is the huckster who begins his blurb with: "An independent survey conducted by one of the country's leading research laboratories proves that more dentists recommend . . . ." Fortunately this formula has worn so thin that it has long since failed to carry conviction.

There is another and much more subtle product of the copywriter's pen which is more difficult to detect and therefore more harmful—the ostensibly scientific report filled with half truths and riddled with slightly distorted quotations from reliable researchers, slanted to serve the sales purposes of the producer or advertiser.

The Council on Dental Therapeutics calls attention, for example, to two attractive pieces of promotional literature released by the Florida Citrus Commission—material obviously designed to enlist the aid of the dentist in encouraging greater consumption of citrus fruit. The general tenor of the text is that the vitamin C content of citrus products is an important factor in preventing periodontal disease and dental caries and that citrus fruits produce no ill effect on teeth.

No one questions that citrus foods are desirable. However, the fact that they play an important role in a well-balanced diet is no justification for making exaggerated claims for their dental therapeutic properties. Certainly their nutritional values furnish

no excuse for the publication of distorted statements designed solely to sell more citrus fruit.

By the clever use of both omission and commission the authors of the pamphlets have slanted their content to suit their purpose. When convenient, they omit important words from statements quoted or quote clauses out of original context. For example, one of the pamphlets[1] states:

"In commenting on improvement in gingival health achieved by the use of grapefruit Schour and Massler find it 'quite possible that the result is due to the local cleansing effect of the fruit,' in addition to the benefits derived from the C vitamin content."

By a slight change in punctuation, consisting of placing quotation marks about part of the original statement, the copywriter technically eludes ascribing to Schour and Massler the last part of the sentence, ". . . in addition to the benefits derived from the C vitamin content." Actually, what Schour and Massler wrote[2] was "in addition to the *possible* benefit of increased vitamin C intake." The effect of omitting the word *possible* is obvious.

This is but one example of the many subtle distortions employed by certain hucksters to obtain, as the Council on Dental Therapeutics states, "some form of unilateral presentation." Although this policy may bring temporary rewards, it is contrary to the best interests of both the public and the profession and, in the long run, it is contrary to the best interest of the industry itself.

Advertisers simply delude themselves in thinking that dentists will continue for long to be influenced by exaggerated and unwarranted claims for a product or by the deliberate misuse of passages from the dental scientific literature.

1. Citrus fruits for dental and oral health. Florida Citrus Commission, Lakeland, Florida.
2. Schour, Isaac, and Massler, Maury. The effects of dietary deficiencies upon the oral structures. J.A.D.A. 32:1022 (Aug. 1) 1945.

Mr. Bevan of Britain belatedly urges putting some administrative sense into Health Service scheme

Aneurin Bevan's recently published book, *In Place of Fear*, although criticized because of certain literary limitations, should prove both interesting and enlightening to all members of the health professions in America as it throws some light on the philosophy underlying Mr. Bevan's drive to furnish all things to all men in Britain. It will aid too in recalling the progress—or lack thereof—made by the British national health program since its inauguration in July, 1948. Since then Mr. Bevan has learned, as others had learned before him, that providing all things to all men presents all manner of problems—some of which seem far beyond solution.

Since the inception of the British National Health Service system, dental fees have steadily declined, bookkeeping time has encroached on operative hours, preventive

dental service for children has rapidly diminished and certain types of service for adults, originally furnished free, are now subject to charge. These changes, plus revisions in administrative regulations, usually made without reference to or consultation with the dental profession, have completely altered the original dental service pattern and become a constant source of irritation to both dentist and patient. As though lowering remuneration, lengthening hours, decreasing preventive service and increasing charges were not enough to stifle enthusiasm and embarrass the service, the British Government now proposes to dilute the profession by training auxiliary workers to treat and extract teeth for patients in hospitals and school dental clinics. If Parliament passes this bill it will mark another step in the British dental profession's losing fight to raise the standards of dental service in their country.

Mr. Bevan, no longer Britain's Minister of Health, touches but lightly on these dental problems in his new book. Nevertheless, he continues to be concerned about the administrative complexities and financial difficulties of his nation's health program. Recently he is reported to have suggested that a simple, logical way of effecting a saving in the health program is to discontinue furnishing certain services. "The country could say, for example, that it could not afford to provide any dental treatment or any drugs and put them outside the Health Service and let the public pay. He emphasized that he did not approve of this but was only pointing out that they ought to get some administrative sense into the scheme and the Treasury ought to do so."[1]

Those who have followed Mr. Bevan's career may be surprised that he would even suggest discontinuing certain services of the health program which he so long has championed. No one can be surprised at his recommendation that "the Treasury should put some administrative sense into the scheme" although he is a little late with his recommendation. Had that been done by Mr. Bevan and his associates before the scheme was put into effect, Mr. Bevan's successor, the British public, and the British health professions would not find themselves in their present difficulties.

1. The National Health Service Bill. Brit. D. J. 92:220 (April 15) 1952.

Washington News Letter

It is still a year until the expiration date of Public Law 779, which authorizes the induction of dentists, physicians and veterinarians for military service, but in Washington, serious thought already is being given to the Act: whether it should be extended, permitted to lapse or continued in some modified form.

Military authorities are of the general opinion that dental manpower requirements cannot be fulfilled through voluntary procurement and that there is scarcely any alternative but to ask Congress to extend the draft law. Certain changes in the statute probably will be requested, however, mainly to correct inequities that have developed since PL 779 was enacted in 1950.

With the Priority I pool of dental registrants depleted and Priority II scraping bottom, it appears almost certain that some Priority III registrants will be receiving Selective Service notices before the end of this year. Inasmuch as this group of nonveterans of World War II is expected to produce proportionately the most 4-F's of any of the four Selective Service categories of special registrants, the first tapping of Priority IV's (World War II veterans) is regarded as inevitable and not too remote.

An important factor in the dental procurement picture is the $100 monthly extra pay received by military dentists. Under existing law, medical and dental officers starting active duty after September 1, 1952, would not receive the extra $100. The Hunt bill, already passed by the Senate and the House and likely to be signed by the President, postpones the deadline 10 months so that it coincides with the termination of the "doctor draft law" in July, 1953.

Tied in with the dental manpower problems of the Armed Forces is another pending bill which will probably be enacted. This is the measure, also sponsored by Sen. Lester C. Hunt (D., Wyo.), that authorizes Army, Navy and Air Force to commission women dentists and to give them exactly the same pay, privileges and promotions accorded to male members of the corps. The bill would have gone on the federal lawbooks weeks ago except for insistence by the House that it contain a "rider" giving armed services discretionary authority to appoint osteopathic physicians of either sex to their respective medical corps on the same basis as M.D.'s.

As a result of this complication the Hunt bill had to be sent to a joint House-Senate conference for settlement of the osteopathy angle. Military officials in the Pentagon say they would like to see the difficulty straightened out—preferably without the osteopathy "rider"—so that women dentists and physicians could be offered equality with men in Army, Navy and Air Force careers. They concede, however, that this incentive would result in only slight relief of professional manpower shortages. They base this view on the small number of applications received from women dentists and physicians interested in military service and on the relatively small number of women in graduating classes.

HEALTH ORGANIZATIONS REPORT

Opinion is mounting in the National Capital that Congress will be asked next year either to repeal the federal lobbying act or else amend it to remove loopholes, to clarify lobbyists' responsibilities regarding registration and filing of financial reports and, in general, to encourage compliance with the law.

Financial reports covering the first quarter of 1952 which were filed by organizations interested in national health legislation indicated that they are spending less money on lobbying activities than they did last year.

Among professional and voluntary groups submitting quarterly reports for Congressional inspection were the following: American Medical Association, American Dental Association, American Hospital Association, American Osteopathic Association, American College of Radiology, Whittaker and Baxter, American Cancer Society, Arthritis and Rheumatism Association, Association of American Physicians and Surgeons, Blue Cross Commission, Committee for the Nation's Health, National Multiple Sclerosis Society, United Cerebral Palsy Association, and the medical societies of North Carolina, Indiana, Alabama and the District of Columbia.

PENDING VA BUDGET

Whether the Veterans Administration will make any changes in fee schedules for its outpatient dental care program depends on the size of the appropriations Congress will grant to the VA for the fiscal year beginning July 1. Drastic cuts that the House imposed on the VA's 1952-53 annual budget were restored by Senate action. Late in June, with final action yet to come, it was conjectural whether a serious cutback would have to be affected in fee-for-service dental care.

International Correspondence

NEWS FROM GREAT BRITAIN

NATIONAL HEALTH SERVICE ACT 1952

The National Health Service Act of 1952 came into force on June 1, and it is expected to have a marked effect on general dental practice. Under the terms of this Act, patients accepted for dental treatment after June 1 have to pay for the treatment if the cost is £1 or less; if it is more than this amount, the patient pays £1 and the state the rest. Should dentures be required, the rate for dentures is still as formerly, but the patient will not be called upon to pay more than £4.5.0d. ($11.90).

Certain patients are exempt from the new charges; these are all patients under 21 years of age, expectant mothers and patients who have borne a child within the previous twelve months. Certain items of treatment remain free of cost to the patient: (1) examination and report, (2) arrest of hemorrhage, (3) house calls, and (4) repairs to dentures and appliances. With the exception of dentures, treatment at dental hospitals is free.

In a statement issued to the press on the dental provisions of the new Act, the British Dental Association said, "One result of the Act is that there is no longer a free emergency service for the general public since the fees for the most common types of emergency treatment are under £1 and, therefore, payable in full by the patient.

"Patients who are in pain and need urgent emergency treatment must in the future be prepared to pay the dentist for that treatment at the time they receive it. Patients applying to the National Assistance Board for a grant will only be able to obtain emergency treatment through the good will of their dentist pending consideration of their case by the Board. The British Dental Association must, therefore, make it quite clear to the public that the dental profession is in no way responsible for the new position whereby patients must pay in order to get relief from pain."

REVIEW OF STATE DENTISTRY

This is perhaps a convenient opportunity to look back over the four years of state dentistry in Britain from the viewpoint of fees and finance. Let me recall that two months before the commencement of the Service the attitude of dentists to it was generally one of hostility. At meetings and in letters to the professional journals, the profession voiced a refusal to take part in the scheme. Allowing for the fact that those who intended to join the scheme did not attend the meetings or write to the journals, it was generally agreed that at the beginning of May 1948, about two-thirds of the profession would not enter the service. At the beginning of June the figures had altered but little. Then the scale of fees became known and on the appointed day, July 5, at least 50 per cent were enrolled in the service.

The scale of fees that the Government offered was astonishing and, I believe, far superior to anything that the representatives of the profession had hoped to achieve. Here is one practitioner's view at that time: "Whatever may be our opinion on the N.H.S. dental scheme at least let us pause before condemning the startling scale of fees: for the first time in dental history authoritative recognition is given to the true value of our calling."

This was not, I think, the common view, which tended rather towards the opinion that it was the carrot dangling before the donkey. It was a hastily prepared scale, but I think it was an honest interpretation of the Spens recommendation and I do not hold with the more sinister view.

The shape of things to come was clearly seen by C. H. Housden, who wrote in the *British Dental Journal* in July 1948: "The scale of fees appears on the surface to be a very generous inducement by the Minister for members of the dental profession to apply wholeheartedly for enlistment in the ranks of the N.H.S. . . . I, like many others of my colleagues, feel that we are being bribed into joining a service which has no security for our future and also no security for the patient. . . . I believe I am correct in stating that £7,000,000 has been set aside for dental benefit but I understand that £60,000,000 will be needed for an efficient dental service. If this is so, this generous scale will be considerably reduced in a very short time because the Minister will not be able to afford the cost of the Dental Service."

This was prophetic indeed! However, it was the financial aspect of the scheme which induced 50 per cent of the practitioners to join

the scheme by July 5, 1948, and about 90 per cent to join by December of the same year. It was also the financial aspect—nothing to pay—that made many patients apply for dental treatment.

There should be no mistake about the popularity of the Health Service as far as the patients are concerned, and the new Act is politically unpopular for the Conservative Government in 1952.

REDUCTIONS IN DENTAL INCOME

In December 1948 the success of "free dentistry" was causing alarm in treasury circles. In that month Mr. Bevan, Minister of Health, was announcing to Parliament measures which were introduced in February 1949. He altered the regulations so that dentists could earn £4,800 at the scale of fees but anything over that figure was cut by 50 per cent.

This temporary measure was soon superseded by another one. In June 1949 an interim scale of fees was substituted for that which induced so many to join the service 12 months before. This reduced the fees by about 20 per cent. This certainly reduced the incomes of dentists, but patients still flocked to practitioners for dental treatment.

Eleven months after the interim scale, in May 1950, a further 10 per cent was deducted from the dentists' cheques but patients were unaffected until in May 1951 a charge was imposed upon them. They were required to pay 50 per cent of the fees for dentures and now a further restriction is being placed upon them by the new legislation.

Some figures are available to show the effect of charges. For the three-month period of September, October and November 1950 (before denture charges), the payments made to dentists amounted to £168,706—an average of £983 per dentist for the quarter. Comparable figures for 1951 were £110,733 (including £9,428 paid by patients), an average of £658 per dentist for the quarter.

Another analysis of the same figures shows that 12.5 per cent of practitioners received less than £100 per month in 1950; 28.7 per cent received less than £100 per month and 13.4 per cent received less than £50 per month in 1951.

The alarm with which the members of the dental profession view the new charges easily can be understood. In addition to charges for dental treatment the new Act introduces charges for the first time for spectacles, some surgical appliances and prescriptions.

ORAL SURGERY CLUB AT GLASGOW

The Oral Surgery Club met under the presidency of Adam Cubie at Glasgow on April 25-26. The club was welcomed to the Dental Hospital, where the meetings were conducted, by Professor Aitcheson.

The hospital is one of the most up-to-date in the country, as the present building was opened shortly before the commencement of World War II. Special facilities are available for postgraduate training in orthodontics, as the Royal Faculty of Physicians and Surgeons of Glasgow awards the only postgraduate diploma in orthodontics in Britain.

Highlights of the meeting were surgical operations viewed at nearby general hospitals, demonstrations with patients suffering from maxillofacial injuries and the showing of a series of interesting roentgenograms. A demonstration of oral surgery was given by the president and two lecture demonstrations were presented. The first, on nonsurgical closure of cleft palates, is indeed most fascinating; visitors to the International Dental Congress in London should not miss seeing this work. The second was a discussion of neuralgia with particular reference to its temporomandibular relation and its treatment by dental appliances.

The annual dinner was held at a hotel on the shores of Loch Ard in the Trossachs, a noted Scottish beauty spot.

John Boyes

Association Affairs

HARRY LYONS NAMED SPEAKER OF HOUSE OF DELEGATES

Harry Lyons of Richmond, Va., has been elected by the American Dental Association's Board of Trustees to the position of Speaker of the House of Delegates for the forthcoming annual meeting. Dr. Lyons, dean of the Medical College of Virginia School of Dentistry, will fill the vacancy caused by the recent death of Ernest G. Sloman.

Harry Lyons

Dr. Lyons has been active in the American Dental Association for many years, serving as a member of the Council on Dental Therapeutics for 17 years and as a chairman of both the nomenclature committee and the committee on national emergency dental service for several years. He has also been a consistent member of the House of Delegates, representing the Virginia State Dental Association, of which he is a past president.

PANELISTS NAMED TO PRESENT PROGRAM AT ANNUAL MEETING

Panelists have been selected for the special general scientific session to be presented during the 93rd annual meeting of the American Dental Association, September 8-11, in St. Louis. On Wednesday morning, September 10, all 11 scientific sections will merge to hear panel discussions on oral focal infection and the use of antibiotics in dentistry.

Presiding at the antibiotics session will be Harry Lyons, dean of the dental school, Medical College of Virginia, Richmond. Participants in the panel discussion will be Robert J. Glaser of the Washington University medical school, St. Louis; Col. Jack B. Caldwell of Walter Reed Hospital, Washington, D. C., and Floyd D. Ostrander of the University of Michigan dental school, Ann Arbor.

The panel on focal infection will be composed of Lester W. Burket, dean of the University of Pennsylvania dental school, who will preside; Kenneth A. Easlick of the University of Michigan dental school; William E. Wellman of the Mayo Foundation, Rochester, Minn., and James R. Cameron of Temple University dental school.

Other highlights of the program are listed in this issue's special section on the annual session.

Persons who plan to attend the annual session may obtain accommodations in St. Louis by filling out the housing application which appears on page A-35 of this issue.

PROFESSOR NAMED TO COUNCIL ON DENTAL THERAPEUTICS

Edward F. Mimmack of Buffalo, professor of materia medica and therapeutics at the University of Buffalo, has been appointed to the Council on Dental Therapeutics to succeed the late Theodore Kaletsky. The appointment was

made by LeRoy M. Ennis, president of the American Dental Association, as an *ad interim* appointment and will expire with the 1952 annual session; at that time the House of Delegates will elect a successor for the full term.

COUNCIL ON DENTAL EDUCATION OUTLINES FUTURE SURVEYS

Nine dental internships and two residencies in 10 hospital programs were approved at the recent meeting of the Council on Dental Education. A total of 117 hospital dental educational programs have now been approved by the Council, it was announced by Eugene R. Westcott of Atlantic City, N. J., chairman. Of the 117 programs, 85 are internships and 32 are residencies.

The Council also reviewed its program of accreditation of dental schools and suggested that a survey be conducted during the next two years on the dental schools' curriculum, hospital dental relations, admissions programs and research programs.

The next Congress on Dental Education and Licensure, conducted annually by the Council, will convene Saturday, February 7, 1953 in Chicago and will discuss two topics: "Admissions Programs in Dental Schools" and "What Constitutes a Dental Specialty."

DATES SET FOR CONDUCTING DENTAL APTITUDE TESTS

Dental aptitude tests for admission to the 1953 dental school classes will be administered October 24-25, 1952 and March 6-7, 1953 at all dental shools and at many state colleges and universities.

These and other arrangements for the 1953 dental aptitude testing program were announced by Shailer Peterson, secretary of the Council on Dental Education. More than 5,300 applicants for admission to dental schools were tested during 1952, the second year in which the program was operated on a nationwide basis, Dr. Peterson reported.

Now available is the brochure, *1953 Dental Aptitude Testing Program,* which contains general information on predental requirements and the professional courses of study as well as instructions to applicants for the aptitude testing program. The booklet may be obtained from any dental school or from the Division of Educational Measurements, Council on Dental Education, American Dental Association, 222 East Superior Street, Chicago 11.

HEALTH EDUCATOR NAMED TO CENTRAL OFFICE STAFF

Perry J. Sandell of St. Paul, supervisor of health in the Minnesota State Department of Education, has been appointed director of the division of dental health education of the Council on Dental Health.

Mr. Sandell will assume his duties at the Central Office in September, it was announced by Harold Hillenbrand, secretary of the Association. Under the immediate direction of the Council on Dental Health, he will produce public education material on dental health and will supervise the health education services provided by the Association.

P. J. Sandell

Mr. Sandell received his bachelor's and master's degrees in health and physical education from the University of Minnesota. He taught school for 10

years and served with the United States Coast Guard prior to his appointment as supervisor of health, physical education, recreation and safety in the Minnesota State Department of Education.

INDEX TO VOLUME 44 OF THE JOURNAL AVAILABLE

The index to volume 44 of THE JOURNAL, covering issues of the first six months of 1952, is now available. Requests for copies may be addressed to Subscription Department, American Dental Association, 222 East Superior Street, Chicago 11.

COUNCIL OFFERS FELLOWSHIP AT ARMED FORCES INSTITUTE

A fellowship in dental and oral pathology at the Armed Forces Institute of Pathology, Washington, D. C., will be awarded this fall by the Council on Dental Museum and Registry of the American Dental Association.

An annual stipend of $3,600 accompanies the fellowship, and training received at the Armed Forces Institute is fully creditable toward board certification. Interested persons may obtain further information by writing to Henry Swanson, chairman of the Council on Dental Museum and Registry, 1726 Eye Street, N.W., Washington, D. C.

GET FOREIGN TRAVEL PERMITS, DRAFT REGISTRANTS ADVISED

Persons registered under Selective Service must obtain permission to leave the continental limits of the United States for a foreign country, according to an announcement by the secretary of the Council on Legislation of the American Dental Association.

The announcement reminded dentists who are planning to attend the International Dental Congress in London that they must receive travel permission from the local board which has jurisdiction over them.

Every reserve officer who desires to leave the United States to visit a foreign country is required to obtain permission from the service concerned.

Dental Societies

POST-PAYMENT DENTAL PLAN OPENED BY CAPITAL DENTISTS

The District of Columbia Dental Society inaugurated on June 1 a postpayment plan in conjunction with the National Bank of Washington. A total of 300 members of the District Society, more than 50 per cent of the membership, have joined the plan.

The Hon. John Cashmore, president of the Borough of Brooklyn, is shown (left) congratulating Alex N. Lifshutz, president of the Second District Dental Society of the State of New York, at the dedication of the Society's new headquarters May 23. The two-story brick building is the first to be erected by a dental society in the United States.

Four members of the Plainfield (N.J.) Dental Society—Harry D. Powelson, Wallace F. Naylor, William L. Mancill and Clive W. Montfort—were honored by the Society at a dinner recently, as they completed 50 years in dentistry. Shown at the dinner are (l. to r.) David J. Fitzgibbon, first vice-president of the American Dental Association; Frank Trusheim, past president of the Plainfield Dental Society; Bion R. East, assistant chief medical director for dental service, Veterans Administration; Dr. Naylor; C. Willard Camalier, assistant secretary of the American Dental Association; Dr. Mancill; Lester Rosenthal, president of the Plainfield Dental Society, and Dr. Montfort. Dr. Powelson was unable to attend because of illness.

National Defense

DRAFT BOARDS TO CLASSIFY PRIORITY III DENTISTS

Local draft boards have been directed to begin the processing and classification of Priority III dentists up to age 36, in accordance with an operations bulletin issued recently by Lewis B. Hershey, director of the Selective Service System.

The boards were asked to send to Priority III dentists both the Selective Service classification questionnaire and the Department of Defense form for commissioning in the dental corps. Priority III dentists, registered under Public Law 779, are non-veterans of World War II up to the age of 50.

General Hershey's bulletin stated in part: "Since the pool of Priority I and II dentists available for service may soon be exhausted, and in order that the Selective Service System may be prepared to fill additional calls from the Department of Defense for dentists, it is necessary that the classification processing of Priority III dentists born on or after May 1, 1917, be commenced immediately."

Currently, Priority II registrants and reserve officers who have served less than 12 months are being called. At the end of April, only 128 Priority II registrants were available for induction; the July call is expected to draw on this supply.

CONTINUE INCENTIVE PAY FOR ARMED FORCES DENTISTS

The Senate and House of Representatives voted during June to continue the $100 monthly incentive pay to physicians and dentists who enlist in the Armed Forces.

The bill, S 3019, provides that any medical or dental officer entering regular service before July 1, 1953 will be entitled to the equalization pay. Reserve officers called to active duty, with or without their consent, before June 1953 will receive equalization pay so long as they remain on active duty. For the first time, retired officers recalled to active duty will also become eligible for the $100 per month additional pay.

The measure was introduced in the Senate by Sen. Lester Hunt (D., Wyo.); in committee hearings, the American Dental Association testified favorably on the bill.

MARVIN E. KENNEBECK TO HEAD AIR FORCE DENTAL SERVICE

Maj. Gen. George R. Kennebeck, USAF (DC) retired June 30 as head of the dental service for the United States Air Force and has been succeeded by his brother, Col. Marvin E. Kennebeck, USAF (DC).

Colonel Kennebeck was recalled from his European post to assume the position of Assistant for Dental Service, Chief of the Dental Division, Office of the Surgeon General, after his selection by a senior board of Air Force officers.

The careers of the two brothers are parallel in many respects, Colonel Kennebeck being nine years the junior. Both were born at Carroll, Iowa and were graduated from the Dental College, State University of Iowa in 1916 and 1924, respectively. Upon entering the Army service in 1917 and 1924 respectively, both officers made military dental work their permanent career and transferred to the Air Force on July 1, 1949 when the Air Force Medical Service was established.

Maj. Gen. George Kennebeck

Col. Marvin Kennebeck

General Kennebeck has served 35 years in uniform and has seen duty in Siberia, the Philippines and Panama, as well as at numerous posts in the United States. He has served as head of Air Force dental service for the past 10 years. He is a Fellow of the American College of Dentists and a member of the American Dental Association and the International College of Dentists.

Colonel Kennebeck has served in Hawaii, the Philippines and Germany as well as in the states. He has acted as Command Dental Surgeon for the Central Flying Command, the Training Command, and the United States Air Forces in Europe (1949-52). He is a member of the American Dental Association, Omicron Kappa Upsilon and Psi Omega.

NAVY ASKS RESERVES TO JOIN REGULAR DENTAL CORPS

Naval Reserve dental officers now on active duty have been offered appointments in the Regular Navy Dental Corps. Reserve officers now serving as lieutenants (junior grade) or lieutenants, less than 37 years old, may apply.

A special officer's fitness report and a report of physical examination should accompany the request. Applications should be submitted to the Chief of the Bureau of Naval Personnel, via commanding officers.

REEXAMINE DEFERMENTS FOR DENTAL FACULTY MEMBERS

"With few exceptions" dental faculty members in Priority I and II will enter the military service within the next year, it was reiterated by the National Advisory Committee to the Selective Service System in a bulletin issued June 4 to local draft boards.

The bulletin states:

"There is twice as high a percentage of dental faculty members in Priority I and II as there are medical faculty members.

"It is the intent of the Department of Defense and the Health Resources Advisory Committee of the Office of Defense Mobilization to continue dental education at its present level insofar as possible.

"It is imperative, therefore, that the State Chairman, his committee and any subcommittees in dentistry or dental education make careful determinations of the relative essentiality or availability of every full-time and part-time faculty member in Priority I or II, either reservist or registrant, before determining whether or not further delay or deferment should be allowed in order to maintain the national health, safety and interest as it pertains to continuing production of adequately trained graduates of dentistry.

"On the other hand it is not the thinking of the Health Resources Advisory Committee (National Advisory Committee) that any avenue or approach be established for evasion of the obligations of those in Priority I or II under Public Law 779.

"With very few exceptions these individuals will enter service sometime during the next 12 months. Therefore, it should be pointed out to deans and others concerned that delay or deferment is and always has been temporary and for definite periods of time since there can be no permanent or blanket deferment.

"In deciding each individual case as it comes to your attention you should consider thoroughly the advice of your dental and local committees before coming to a final decision. If in doubt about a case please supply full details to the National Office."

International

200 UNITED STATES DENTISTS TO ATTEND F.D.I. CONGRESS

More than 200 dentists from the United States have registered as active members of the eleventh International Dental Congress, to be held July 19-26 in London. A total of 2,100 members of the Fédération Dentaire Internationale will represent 45 countries at the Congress, it has been announced by Gerald H. Leatherman of London, secretary.

In addition to dental authorities of the United States already reported as participants in the Congress, the following will take part in three symposiums: Allan G. Brodie of Chicago; H. Trendley Dean of Washington, D. C.; Kenneth Easlick of Ann Arbor, Mich.; Harry Frisbie of San Francisco; Ernest R. Granger of Mt. Vernon, N. Y.; J. A. Salzmann of New York City; Victor Sears of Salt Lake City; C. J. Stansbery of Seattle, and M. G. Swenson of Portland, Ore. The symposiums will discuss orthodontics, full dentures, and the control and prevention of caries.

The latest communication from the

arrangements committee of the Congress states that Great Britain's Minister of Health will conduct the opening ceremonies; an Armed Forces section has been organized in addition to separate scientific sections and an informal research section; 200 clinical demonstrations have been scheduled and London dental schools and hospitals have prepared "at home" programs for presentation during the Congress.

The Congress is sponsored by the Fédération Dentaire Internationale.

CANADIAN DENTAL ASSOCIATION ISSUES JUBILEE JOURNAL

A comprehensive history of Canadian dentistry is related in the golden-covered "Golden Jubilee" issue of *The Journal of the Canadian Dental Association,* which was published in June.

In English and French sections, the issue features articles on the Association itself, as well as on Canada's dental education, research, public health, military dental corps, specialties and organizations.

A highlight of the French section is an historical article by Eudore Dubeau, a founder of the Canadian Dental Association and the only surviving founder of the Fédération Dentaire Internationale. In the English section, the history of dental journalism in Canada is reviewed by M. H. Garvin, editor of the publication since its founding in 1935 and associate editor of the *Dominion Dental Journal,* 1911-34.

The Canadian Dental Association observed the fiftieth anniversary of its founding at a meeting June 15-18 in Vancouver, British Columbia.

BRITISH DENTAL ASSOCIATION HONORS FOUR U.S. DENTISTS

Four dental authorities of the United States have been elected to honorary membership in the British Dental Association. They are Russell W. Bunting of Ann Arbor, Mich.; William Hodgkin of Warrenton, Va.; Andrew Jackson of Philadelphia, and Oren Oliver of Nashville, Tenn. Members of the American Dental Association have been invited to participate in the annual meeting of the British Dental Association in Cardiff, Wales, during the week of September 1, 1952. Any members who may find it possible to attend this meeting are asked to communicate with Harold Hillenbrand, Secretary, American Dental Association, 222 East Superior Street, Chicago 11.

ARGENTINE DENTAL SOCIETY ANNOUNCES 1952 OFFICERS

Recently elected officers of the Asociacion Odontologica Argentina are Ricerio Canzani, president; Armando E. Monto, vice-president; Hector A. Tarasido, secretary; Jose Manuel Lueje, assistant secretary; Hermenegildo Arnejo, treasurer, and Carlos Waissbein, assistant treasurer.

IRISH DENTAL ASSOCIATION CANCELS MEETING AT DUBLIN

The Irish Dental Association has cancelled its meeting in Dublin, which was scheduled for the coming month. F. J. Dunkin, secretary of the organization, announced the cancellation.

SOUTH AFRICAN DENTISTS TO HOLD CONGRESS IN 1953

The Dental Association of South Africa is now planning its Scientific Congress and Trades Exhibition, to be held at Johannesburg in May, 1953.

Alan Deverall of Johannesburg, chairman of the Congress, has invited members of the American Dental Association to attend.

Any member of the American Dental Association who plans to be in South Africa during May, 1953, is asked to

communicate with Alan Deverall, P. O. Box 5247, Johannesburg, South Africa.

Public Health

DENTAL RESEARCH GRANTS ANNOUNCED BY USPHS

Three dental research grants were among the 249 new grants announced June 12 by the U.S. Public Health Service.

The National Institute of Dental Research awarded $8,650 to Vincent Frank Lisanti of Tufts College and $9,909 to Lester O. Krampitz of Western Reserve University. Dr. Lisanti's study is described as research on "the effect of ACTH and cortisone on pulp reactions and dentin deposition in fully erupted teeth"; Dr. Krampitz' research project is a study of "intermediary carbohydrate metabolism of microorganisms associated with dental caries."

The Division of Research Grants of the National Institutes of Health awarded $17,355 to Francis F. Heyroth of the University of Cincinnati for research on "ingestion of fluoride derived from drinking water and its elimination by man."

HOUSE, SENATE DISAGREE ON VA BUDGET BILL

A joint House-Senate conference was called in mid-June to write a compromise budget for the Veterans Administration, including appropriations for "home town" medical and dental care of veterans.

Earlier, the Senate had restored 80 per cent of the $85,000,000 cut from the VA budget by the House of Representatives in March. The Senate Appropriations committee was told by Carl R. Gray, Jr., Veterans Administrator, that the House-proposed budget would allow 15,600 fewer dental examinations and 24,700 fewer dental treatments for VA beneficiaries during the coming year. To restore funds for outpatient care, the Senate cut $87,000,000 from the item which the House had voted for the construction of hospitals.

JOHN KNUTSON NAMED USPHS CHIEF DENTAL OFFICER

John W. Knutson, chief of the division of dental health of the U.S. Public Health Service since 1949, has been named chief dental officer of the USPHS, it was announced June 11 by Surgeon General Leonard A. Scheele.

Dr. Knutson succeeds Bruce D. Forsyth, who has concluded a four-year tour of duty and has been assigned to the Office of the Federal Security Agency, Region 1, Boston.

John Knutson

During his 21 years of service with the USPHS, Dr. Knutson has worked in service hospitals and has conducted research in dental caries at the National Institute of Health and the dental division of the Minnesota State Department of Health. During 1944-49, he was chief of the dental section of the USPHS state relations division, where he acted as a dental consultant to state health authorities. Dr. Knutson is a graduate of the University of Minnesota dental school and received his master's and doctor's degrees in Public Health from Johns Hopkins University.

Dental Education

H. B. McCARTHY NAMED DEAN OF BAYLOR DENTAL SCHOOL

H. B. McCarthy of Baltimore, professor and director of clinics at the University of Maryland Dental School, has been appointed dean of Baylor University College of Dentistry, succeeding George L. Powers, who recently resigned.

H. B. McCarthy

A native of Vermont, Dr. McCarthy was graduated from the University of Maryland Dental School in 1923 and has been a member of the faculty since his graduation. He is chairman of the Judicial Council of the American Dental Association and a former president of the Baltimore City Dental Society, the Maryland State Dental Association and Omicron Kappa Upsilon, national honorary fraternity.

FREDERICK W. WEST NAMED ACTING DEAN

Frederick W. West of San Francisco, has been named acting dean of the College of Physicians and Surgeons to succeed the late Ernest G. Sloman. Dr. West, a graduate of the College of Physicians and Surgeons, is secretary of the Pacific Coast Society of Orthodontists and a former secretary of the California State Dental Association, the Pacific Coast Dental Conference and the San Francisco Dental Society. He is the immediate past president of the College's alumni organization.

POSTGRADUATE COURSES OFFERED BY DENTAL SCHOOLS

University of Minnesota • Graduate study programs of two to three years, leading to the degree of master of science are now being arranged by the University of Minnesota.

A program may be arranged with a major in orthodontics, oral pathology, oral surgery, oral medicine, periodontics or restorative dentistry (operative, prosthetics, pedodontics or endodontics), and a minor in one of the fundamental health sciences.

An alternative program in the basic sciences, with special reference to dentistry, leads to the degree of doctor of philosophy.

A limited number of fellowships and teaching assistantships are available to graduate students. Stipends for these appointments range up to $3,600 per year. Further information and application forms may be obtained from the dean of the Graduate School, University of Minnesota, Minneapolis.

Oregon • Postgraduate courses to be presented during the summer at the University of Oregon Dental School include three courses of 35 hours instruction and five courses of 12 hours instruction.

The 35-hour courses are:

Root Canal Therapy, August 11-15, by J. H. Kaiser of Ohio State University;
Advanced Oral Surgery, August 25-29, by Sterling V. Mead of Washington, D. C.;
Precision Prosthesis in Functional Treatment, September 29-October 3, by E. R. Granger of Mt. Vernon, N. Y.

A 12-hour course, Practical Clinical Application of Current Pharmacology, will be presented August 4-5 by Chauncey D. Leake of the University of Texas medical school.

Four 12-hour courses will be offered simultaneously September 23-24 by members of the University of Oregon Dental School staff; a dentist may enroll in only one of these courses. They are: Anatomy of the Head and Neck conducted by Ellis B. Jump, Full Denture Prosthesis by Merrill G. Swenson, Hydrocolloid Technic in Full Mouth Reconstruction by W. H. Wilson, and Interpretation of Roentgenographic Films by H. Cline Fixott, Jr.

Further information may be obtained by writing to the department of postgraduate education, University of Oregon Dental School, Portland 14, Ore.

TEXAS DENTAL BRANCH BEGINS CONSTRUCTION OF BUILDING

Ground-breaking ceremonies for the new building to house the University of Texas Dental Branch, were held in Houston, May 6. Approximately 500 persons attended the ceremonies, at which Chancellor James P. Hart spoke.

The Dental Branch, established by the state legislature in 1943, will consist of the School of Dentistry, Postgraduate School of Dentistry, College of Dental Hygiene and Research Institute. All four of these units will be in operation by the time the building is completed, according to Frederick C. Elliott, dean of the Dental Branch.

The new building will have an area of 200,000 square feet and will cost $6,400,000. Site of the building is the Texas Medical Center, Houston.

TELEPHONE SERIES OUTLINED BY UNIVERSITY OF ILLINOIS

Another series of telephone-transmitted programs entitled "Current Advances in Dentistry," will be offered monthly starting next November by the University of Illinois College of Dentistry.

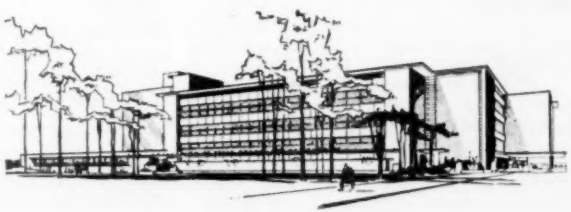
Twenty-nine dental practitioners, educators and scientists will serve as the faculty for the series of five programs, which will be transmitted by telephone from Chicago to dental societies and study clubs throughout the United States and Canada. The programs "emphasize material of benefit to the general practitioner" and are designed to serve as monthly scientific programs for interested dental organizations. They will be offered on the second Monday of each month, from November through March.

Subjects for the 90-minute programs, dates and faculty, include:

Exodontics, November 10—Julius R. Bourgoyne, University of Tennessee; James R. Cameron, Temple University; William E. Durbeck, San Antonio, Tex.; J. H. Johnson, University of Toronto; Sanford M. Moose, College of Physicians and Surgeons, and Eli Olech, University of Illinois.

Dental materials and therapeutic aids in everyday dentistry, December 8—Lester W. Burket, University of Pennsylvania; J. Roy Doty, American Dental Association; Floyd D. Ostrander, University of Michigan; George C. Paffenbarger, U. S. Bureau of Standards; Ralph W. Phillips, Indiana University, and Donald A. Wallace, University of Illinois.

Removable partial denture prosthesis, January 12—Frederick C. Elliott, University of Texas; Capt. Arthur R. Frechette, Bethesda, Md.; Robert M. Ricketts, University of Illinois; Arthur F. Schopper, Kansas City, Mo.;



This building, which will house the University of Texas Dental Branch, is now being erected at Houston. The Dental Branch will include the present dental school, a postgraduate school, dental hygiene school and dental research institute.

Robert Appleman, University of Chicago, and W. Howard Kubacki, University of Illinois.

Treatment of periodontal disease, February 9—Paul E. Boyle, University of Pennsylvania; Howard A. Hartman, Cleveland; Harry Lyons, Medical College of Virginia; Harold G. Ray, University of California; Charles H. M. Williams, University of Toronto, and Maynard K. Hine, Indiana University.

Developmental anomalies in dental practice, March 9—Robert G. Kesel, Maury Massler, Bernard G. Sarnat, Isaac Schour and Allan G. Brodie, all of the University of Illinois.

Organizations may register for the course by writing to the Postgraduate Division, University of Illinois College of Dentistry, Chicago.

General

JOHN G. HILDEBRAND, IOWA DENTAL LEADER, DIES

John Grant Hildebrand of Waterloo, Iowa, former trustee of the American Dental Association, died June 14 at the age of 83. A graduate of the State University of Iowa Dental College in 1890, Dr. Hildebrand organized the present Waterloo Dental Society in 1895. He was also active in the Iowa State Dental Society, serving on the executive council for 26 years; he wrote the constitution of the reorganized Society and became its president in 1916. He founded the Iowa Bureau of Dental Hygiene, which is cosponsored by the State University of Iowa and the Iowa State Department of Health.

Dr. Hildebrand first participated in an American Dental Association annual session in 1904, at the international meeting in St. Louis. In 1924 he took office as vice-president of the Association and subsequently served two terms as a member of the Board of Trustees. He was chairman of the finance committee of the Board during his second term and was chairman of the Relief Committee for many years.

WILLIAM J. GIES HONORED AT COLUMBIA UNIVERSITY

A bronze plaque honoring William J. Gies, distinguished dental research authority, was dedicated at the Columbia University dental school on June 6. Dr. Gies, one of the founders of the school in 1916, was present at the unveiling of the plaque, which consists of a bas-relief portrait of Dr. Gies and an inscription reviewing his work.

The committee which sponsored the erection of the plaque was led by an executive committee composed of William B. Dunning of Englewood, N. J., chairman; Henry S. Dunning of New Canaan, Conn., and Arthur H. Merritt of New York. In addition to William B. Dunning, speakers at the dedication were Willard C. Rappleye, dean of the Columbia University School of Dental and Oral Surgery, and Maurice J. Hickey, associate dean.

DENTAL PATHOLOGISTS WIN AWARD OF MILITARY SURGEONS

The Louis Livingston Seaman Award of the Association of Military Surgeons has been received by Col. Joseph L. Bernier, DC, USA and Mrs. Mardelle Clark, both of the Armed Forces Institute of Pathology, Washington, D. C. They were cited for their article, "Squamous Cell Carcinoma of the Lip," a critical, statistical and morphological analysis of 835 cases, which appeared in the October 1951 issue of *Military Surgeon*.

The Seaman Award is made annually by the Association of Military Surgeons for the article appearing in their journal which, in the opinion of the committee, demonstrates exceptional usefulness.

NEW YORK DENTAL LEADER, THEODORE KALETSKY, DIES

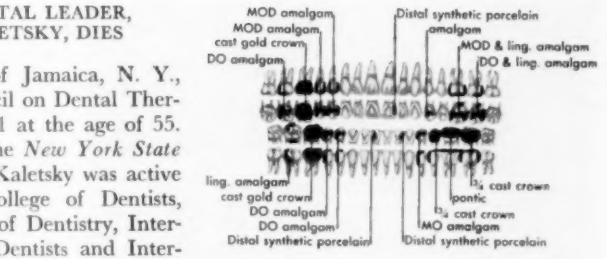
Theodore Kaletsky of Jamaica, N. Y., member of the Council on Dental Therapeutics, died May 21 at the age of 55. A former editor of the *New York State Dental Journal,* Dr. Kaletsky was active in the American College of Dentists, New York Academy of Dentistry, International College of Dentists and International Association of Dental Research. He was also an associate fellow of the New York Academy of Medicine.

At the time of his death, Dr. Kaletsky was a member of the New York State Board of Dental Examiners and was active in the atomic energy research programs of the First District Dental Society of New York and the Council on Dental Research of the American Dental Association.

Surviving are his widow, two daughters and one son.

PARENTS OF MISSING STUDENT ASK DENTISTS TO AID SEARCH

Dentists have been asked to cooperate in the search for Allen Lehman, 21 year old student who disappeared last fall. As he may require dental care, dentists have been alerted to watch for him. He is 5′ 8″, 150 pounds, and has a light complexion and dark brown hair. He wears glasses. On August 10, 1951 he cashed one of several travelers' checks at a Billings, Mont. bus station while on a trip; no trace of him has been found since then.



Reproduced here are his picture and his dental chart as made up in 1948. His dentist notes: "front teeth fairly straight and even, no irregularities; color, light yellow approximating shade 62 Trubyte New Hue Vitality Scale; occlusion fairly normal."

Information about Allen Lehman may be sent to his parents, Mr. and Mrs. George Lehman, 8305 Twentieth Avenue, Brooklyn 14, N. Y.

Allen Lehman

SOCIETY OF ORAL SURGEONS LISTS REGIONAL SOCIETIES

The American Society of Oral Surgeons herewith releases a list of recognized regional societies composed of specialists in oral surgery. "Members of these societies limit their practice of oral surgery and are fully qualified to practice this specialty," states W. T. Ewing, president of the Society.

Chalmers J. Lyons Academy of Oral Surgery; Bruce B. Cook, secretary-treasurer, 10314 Puritan Avenue, Detroit

Chicago Society of Oral Surgeons; V. B. Sorensen, secretary-treasurer, 4013 N. Milwaukee Ave., Chicago

Cleveland Society of Oral Surgeons; Eugene V. Linsey, secretary-treasurer, 736 Rose Building, Cleveland

Great Lakes Society of Oral Surgeons; Bruce B. Cook, secretary-treasurer, 10314 Puritan, Detroit

Indiana Society of Oral Surgeons; J. Frank Hall, secretary-treasurer, 1121 West Michigan Street, Indianapolis

Iowa Society of Oral Surgeons; John Whinery, secretary, University Hospitals, Iowa City
Metropolitan-New York Society of Oral Surgeons; S. Daniel Seldin, 57 West 57th, New York 19
Middle Atlantic Society of Oral Surgeons (includes West Virginia Society); Eugene D. Lyon, secretary-treasurer, 11 East Chase Street, Baltimore
Midwestern Society of Oral Surgeons; Lester H. Jasper, secretary-treasurer, 508 North Grand Boulevard, St. Louis
New England Society of Oral Surgeons; John E. McNally, treasurer, 293 Bridge Street, Springfield, Mass.
Northern California Society of Oral Surgeons; B. C. Kingsbury, Jr., 601 Georgia Street, Vallejo, Calif.
Southeastern Society of Oral Surgeons; Charles F. Landis, secretary-treasurer, 316 James Building, Chattanooga, Tenn.
Southern California Society of Oral Surgeons; J. Lorenz Jones, secretary-treasurer, 405 North Bedford Drive, Beverly Hills, Calif.
Southwest Society of Oral Surgery; Robert C. Botts, secretary-treasurer, 912 Medical Arts Building, Fort Worth, Texas
Western Pennsylvania Society of Oral Surgeons; Donald E. Wagner, secretary-treasurer, 703 Peoples East End Building, Pittsburgh 6

Dr. Ewing announced that the above list has been compiled by the American Society of Oral Surgeons "so that the dental public will not be misinformed in regard to the men who actually limit their practices to this specialty."

A. F. JAMES, PERIODONTIST FOR 53 YEARS, DIES

Austin F. James, periodontist in the Chicago area for 53 years, recently died in Los Angeles at the age of 81. Active in dental circles from 1892 until his retirement in 1945, Dr. James was a life member of the American Dental Association, Illinois State Dental Association, Chicago Dental Society and Delta Sigma Delta fraternity.

Dr. James was a Fellow of the American Academy of Periodontology and was its first president, 1914-16. He was also a founder of the Chicago Dental Research Club and a diplomate and former board member of the American Board of Periodontology. Surviving are a daughter and a son, Allison G., dentist of Beverly Hills, Calif.

OSCAR SNYDER, J. L. BERNIER, KURT THOMA PLAN LECTURES

The Army Dental Corps and the Armed Forces Institute of Pathology will be represented at the forthcoming International Dental Congress in London by Brig. Gen. Oscar P. Snyder, DC, USA, and Col. Joseph L. Bernier, DC, USA. General Snyder is director of dental activities at the Army Medical Center and Colonel Bernier is chief of the oral pathology section of the Armed Forces Institute of Pathology.

After the Congress Kurt H. Thoma of Boston will accompany General Snyder and Colonel Bernier on a trip to Germany, where the three will present a series of conferences before service dentists in that area. They also plan to visit a number of European schools.

FULBRIGHT AWARDS OFFERED FOR RESEARCH, LECTURING

Fulbright scholarship awards for university lecturing and postdoctoral research are available for 1953 in Europe and the Near East. Among the countries in which awards are offered are Austria, Belgium and Luxembourg, Denmark, Egypt, France, Greece, Iraq, Italy, Netherlands, Norway, Turkey and The United Kingdom. Awards have also been instituted in Japan, Pakistan and the Union of South Africa.

More information and application forms may be obtained from the Committee on International Exchange of Persons, Conference Board of Associated Research Councils, 2101 Constitution Avenue, N.W., Washington 25, D.C. Applications must be completed by October 15.

The fluoridation plant of Concord, N.H., was officially opened May 12 when Woodbury Brackett (left), city manager, put the first measure of sodium silicofluoride into the plant hopper. Shown with Mr. Brackett are the Mayor and City Council of Concord. The opening ceremonies were also attended by the president of the New Hampshire Dental Society, members of the Concord Dental Society and the State Dental Director.

MAGAZINE ARTICLE DESCRIBES ADVANCES IN DENTISTRY

A four-page, illustrated article on "What You Should Know about Your Teeth," appears in the June 28 issue of *Collier's* magazine.

Written for laymen by Carle Hodge, the article reports on "dentistry's desire to improve the teeth of the American child and adult." Correct toothbrushing, fluoridation of public water supplies, resins, airbrasive technic and treatment of deciduous teeth are described.

AMERICAN ACADEMY OF DENTAL MEDICINE ELECTS OFFICERS

Harold R. Gelhaar of Upper Montclair, N. J., was installed as president of the American Academy of Dental Medicine at its recent annual meeting at Montreal, Canada.

Other officers are: Alvin H. Berman of Baltimore, president-elect; William M. Greenhut of New York, secretary; George C. Stewart of Philadelphia, treasurer and Allan N. Arvins of New York, editor.

The Academy conferred honorary memberships on Ernest Charron, dean of the University of Montreal dental school and D. Prescott Mowry, dean of the McGill University dental school. Fellowships were awarded to S. L. Rosenthal of Philadelphia and W. M. Greenhut and Louis Burman of New York.

PATIENTS HONOR DENTIST AT STATE SCHOOL FOR DEAF

Colin A. McHardy, dentist of Baton Rouge, La., was honored recently by a group of devoted patients—the senior class at the Louisiana State School for the Deaf. The seniors dedicated their yearbook to Dr. McHardy, who has served the school for 16 years, and announced the citation at class night ceremonies.

Receiving the award was a "turnabout" experience for Dr. McHardy; he annually presents an award, a wrist watch, to the outstanding senior student.

F.B.I. SEEKS INFORMATION ON COMMUNIST FUGITIVE

The Federal Bureau of Investigation has called on dentists to assist in locating Gilbert Green, a district chairman of the Communist Party, Chicago. Green is one of the Communist leaders convicted for violation of the Smith Act; he is a fugitive from justice as a result of forfeiting bond in the Federal District Court, New York, in July 1951.

His description follows: age 45; height, 5'6"; weight, 150 pounds; eyes, hazel;

hair, black and curly—high forehead; complexion, dark; build, medium; race, white; nationality, American. He wears an upper removable partial denture to replace three upper right front teeth.

Green is quiet in manner, except for rare outbursts of emotion. His appearance is neat and he frequently wears brown suits and bright ties. He chews gum and smokes cigarettes occasionally.

Any person having information about Gilbert Green is requested to notify the nearest FBI office immediately. The phone number appears on the first page of the telephone directory.

STUDY CLUB SEMINAR OFFERS DENTAL CLINICS, RECREATION

A four-day seminar in which clinic days will alternate with recreation days, will be held by the Northwestern University Dental Study Club of Wisconsin, September 24-27 at Big Lake, near Boulder Junction, Wis.

The clinicians are members of the Northwestern University faculty: George Teuscher will present "Various Phases of Pedodontics," Arne Romnes, "Bio-Chemical Approach to Operative Procedures," and O. W. Silberhorn, "Fundamentals in Crown and Bridge Work."

The recreation days will be devoted to fishing, hunting, motor trips and golf. Registration is limited to Northwestern graduates, particularly in Northern Wisconsin, Minnesota and Northern Michigan. Further information may be procured from George R. Hulen, secretary, Waukesha, Wis.

ORTHODONTICS INSTRUCTOR NAMED ESSAY CONTEST WINNER

Robert M. Ricketts, orthodontics instructor at the University of Illinois College of Dentistry, has been named winner of the $500 prize essay contest of the American Association of Orthodontists. Dr. Ricketts' essay was entitled "A Study of Changes in Temporomandibular Relations Associated with the Treatment of Class II Malocclusions (Angle)."

60 CERTIFIED AS DIPLOMATES OF ORTHODONTICS BOARD

The American Board of Orthodontics has announced that 60 candidates passed the April examination for certification and became diplomates of the Board.

The new president of the Board is Max E. Ernst of St. Paul, who succeeds Stephen C. Hopkins of Washington, D. C. The unexpired term of Reuben Olson of Wichita, Kan., was filled by the appointment of William E. Flesher of Oklahoma City. The next meeting of the American Board of Orthodontics will be held April 22-26 at Dallas, Texas.

The Reader Comments

THE JOURNAL *devotes this section to comment by readers on topics of current interest to dentistry. The editors reserve the right to edit all communications to fit available space and require that all letters be signed. Signatures will be deleted before publication at the request of the author. Printed communications do not necessarily reflect the opinion or official policy of the Association. Your participation in this section is invited.*

The Editor

VARIATIONS IN NORMAL COLOR OF HEALTHY GINGIVAE

In going through the Evaluating Committee Reports of the Periodontal Workshop, I came across one point to which I would like to call attention. It is the scientific inaccuracy of designating the healthy gingiva as being "pink."

I would suggest that the statement be amplified to read "color—pink (in the majority of fair-skinned people and pigmented in the majority of dark-skinned people)," or rather to state that "the normal color of the healthy gingiva is variable and may range from a light pink color to a heavily pigmented blue-black color."

The following statements are from an article of mine published in 1946[1]:

1. "The variations that occur in the color of the gums and gingivae of so many members of some white and most non-white groups make it imperative that more consideration be given to the normal appearance of these and the other oral tissues of these people. Since knowledge of the normal is an essential prerequisite to diagnosis of the abnormal, it is suggested that more attention and study be devoted to the appearance of healthy pigmented tissues so that some basis may be available for diagnosing the clinical signs of incipient diseases when the latter occurs in the mouths of these particular individuals."

2. "The color of the gums and gingivae in the healthy mouths of negroes present considerable variations that range from a very light pale pink to degrees of purplish black pigmentation."

3. "Diagnosis of disease solely on the basis of color changes is difficult and unreliable."

4. "Oral pigmentation is by no means confined to members of the Negro race. It has been reported in the French, Filipino, Algerian, Arabian, Chinese, East Indian, German, Gypsy, Roumanian and natives of Asia Minor. In addition to these, Monash reported the occurrence of oral pigmentation in members of the following groups: Italian, Jewish, Greek, Puerto Rican, Syrian, Peruvian, and Ceylonese. Physiologic oral pigmentation is therefore not limited to any one race, although it does appear to be a common characteristic of the darker races. Becker has demonstrated that although clinically absent, some degree of epidermal pigmentation was seen microscopically in the normal buccal mucosa of 74 per cent of 53 unselected autopsies. All of Becker's cases were white and mostly of medium complexion. As a result of these studies he concluded that pigmentation of the buccal mucosa seemed to be normal."

Clifton O. Dummett, D.D.S., Tuskegee, Ala.

1. Dummett, Clifton, O. Physiologic Pigmentation of the Oral and Cutaneous Tissue in the Negro. J. D. Res. 25:423 (Dec.) 1946.

WIRES IN HYPODERMIC NEEDLES

Within the past few months an article was published in a dental journal regarding the removal of a wire used in hypodermic needles: a roentgenogram of the case had showed the needle wire. My thought at the time was, "How can that happen?"

Recently, however, while preparing for a mandibular injection, I picked up a needle with no wire sticking out of it. Pressure on the plunger forced the wire through the needle; it was a wire which was shorter than the needle. I have been in practice since 1916, but if I had not read the article referred to, there might have been an unfortunate experience for my patient and an embarrassing and perhaps costly one for me.

A worthwhile project would be to induce the wire manufacturers to form a loop at one end of the wire.

W. D. Roy, D.D.S., Kalispell, Mont.

PSYCHOLOGICAL EFFECT OF DEVICE TO CORRECT THUMB-SUCKING

In "The Dilemma in the Management of Thumb-Sucking," published in the July 1951 issue of THE JOURNAL, Edward S. Mack of San Francisco described his appliance to correct thumb-sucking. The readers of THE JOURNAL may be interested in the results of a recent brief study on the psychological effects of Dr. Mack's appliance.

By previous arrangement, Dr. Mack referred three children to us before he inserted the appliance in their mouths. We tested and observed these children before the appliance was used, during its use and after its removal. We also interviewed the children's parents.

In all three children, the appliance failed to correct the habit. In one, the use of the appliance was followed by nightmares, insomnia, intense anxiety and bedwetting. In the other two children, no particular deleterious effects were noted although some psychological changes resulted.

This study indicated that the use of this appliance may be hazardous without thorough psychological and psychiatric investigation prior to its use. The psychiatrist, psychologist and dentist should collaborate in problems of this sort, which can be investigated scientifically. J. H. Sillman, in the *Journal of Pediatrics*, October 1951, pointed out that other factors besides thumb-sucking affect the bite of children and that thumb-sucking was prone to affect only those with poor bites and that teeth displaced by thumb-sucking spontaneously find correction after the activity has been discontinued.

Norman Reider, M.D., and Anneliese F. Korner, Ph.D., San Francisco

SEPARATE RETIREMENT INSURANCE FOR DENTISTS PROPOSED

I read with an open mind your editorials on OASI and the Relief Fund in the April issue of THE JOURNAL, and I find many points that are valid.

However, a sufficient number of practitioners deplore the fact that they are not included in the Old Age Insurance Plan. Under the circumstances, I believe it would be advisable for our Association to explore the advisability and practicality of setting up our own fund for old-age retirement. I mean a complete and independent insurance for dentists reaching a certain age. Of course, it would be a gigantic undertaking, but perhaps, a workable and beneficial one. We ought to look into it.

As to your statements about the Relief Fund of the American Dental Association, I would like to say that the amount collected annually is pitifully inadequate and the funds allotted to indigent individuals is less than decent. This, too, should have more careful study and steps should be taken to ameliorate a shameful situation.

S. P. Ratner, D.D.S., Long Island City, N. Y.

Current Literature

CLINICAL INVESTIGATIONS IN PREVENTIVE DENTISTRY

John Miller. Brit. D. J. 91:92, August 21, 1951.

A clinic set up at Manchester University in 1947 undertook full dental treatment for children in the three surrounding schools. The effect of preventive treatment was observed and conservative measures were applied when preventive measures failed. Numerous details regarding routines, the date and number of treatments given, the number of children treated and the methods of control are given. Four lines of preventive treatment which were investigated are as follows: (1) Full mouth oral hygiene carried out by dental hygienists. (2) The application of ammoniacal silver nitrate to all posterior permanent teeth. (3) Application of 1 per cent sodium fluoride in aqueous solution to all teeth for two minutes. (4) The occlusion of all pits and fissures of posterior permanent teeth with black copper cement.

E. J. Fredrickson

PRACTICAL MANAGEMENT OF THE IMPACTED MAXILLARY CUSPID

Milton M. Lappin. Am. J. Orthodont. 37:769, October, 1951.

Adequate surgical exposure is the first step in the management of an impacted cuspid. A waiting period of 3 to 12 months is routine procedure following surgical exposure.

Orthodontic intervention rarely is justified or necessary if the impacted tooth has been adequately exposed. The delayed exfoliation of the deciduous cuspid probably is the principal etiologic factor in the production of maxillary cuspid impactions.

Cuspid impactions are congenital in nature and when a maxillary cuspid impaction occurs, it is practically always lingual to the adjacent teeth in the arch.

Because of possible injury to adjacent teeth and supporting structures, impacted cuspids discovered in later life should be closely watched and considered candidates for removal if surgical exposure is not practical.

By detecting an impaction early and removing the offending tooth, the deciduous cuspid, it may be possible in many instances to prevent this condition from occurring.

William F. Ford

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TUBERCULOSIS AND PERIODONTAL DISEASE, WITH SPECIAL REFERENCE TO THE COLLAGEN FIBERS

Sigurd Ramfjord, p. 5.

Clinical examination followed by necropsy and histologic study was performed on 10 rhesus monkeys which suffered from severe tuberculosis of human type. Seven healthy monkeys were used as controls. Microscopic study was done on specimens from jaws, teeth, temporomandibular joints, mesial end of tibia and from visceral organs. Since degeneration of periodontal fibers has been listed as the initial and most important finding in periodontosis, various special stains for collagen were utilized in this investigation. No periodontal changes were observed that could be attributed to tuberculosis in the 10 rhesus monkeys. No indication of collagen changes was noted in sections from jaws and joints. No observations substantiated the theory of lowered periodontal resistance in tuberculosis. Silver stains were unreliable in decalcified and celloidin-embedded material.

STUDIES IN PERIODONTAL DISEASE

Maxwell Karshan, Benjamin Tenenbaum, Daniel E. Ziskin and Roslyn Friedland, p. 11.

Blood studies of patients with periodontosis (primary periodontosis), periodontitis complex (secondary periodontosis) and advanced periodontitis simplex showed that deviations from normal ranges were present in a greater percentage of patients in each of these groups than in a control group free from periodontal disease. This was the case for vitamin C, glucose, globulin, albumin, calcium-ion, alkaline phosphatase, red blood cell sedimentation rate, red blood count, white blood count and neutrophils. The fact that more deviations were found in the groups with periodontal disease than in the control group suggests that one or more systemic conditions are associated with these diseases in many of the subjects studied. A record of the food intake over a period of one week indicated that a large percentage of the individuals in the control and periodontosis groups fell below the standards recommended by the Food and Nutrition Board of

the National Research Council for calories, protein, calcium, phosphorus, iron, thiamine, riboflavin and niacin. However, there was no fundamental difference between these groups. On the other hand, with few exceptions the intakes of vitamins A and C were adequate for both groups. Neutral 17-ketosteroid output in the urine was determined to study adrenocortical activity. The mean output was somewhat greater in the control than in the periodontosis groups, but the difference between the means of the two groups was not statistically significant. Physical examinations, including case histories, did not reveal a common systemic condition responsible for periodontosis and periodontitis complex. A miscellaneous number of conditions was found in 58 per cent of the cases. There was no difference between the control and periodontosis groups in the basal metabolic rate. The Kline test was negative in all cases.

IDENTIFICATION OF A PROTEOLYTIC ENZYME OF THE PERIODONTAL POCKET

Genevieve D. Roth and Hugh I. Myers, p. 18.

Material from periodontal pockets of 69 subjects and nine control tubes were cultivated anaerobically for 21 days at 37° C. to indicate the presence of collagenase activity. The fluid media consisting of horse serum, rat kidney and distilled water contained a piece of collagen paper as a substratum. The controls were negative except that one tube showed lysis following contamination. In the experimental tubes the collagen showed complete lysis in 22 per cent of the cases and partial lysis in 15 per cent. A gross examination of the kidney showed complete lysis in 11 per cent; partial lysis in 29 per cent. These preliminary data indicate that collagenase activity is demonstrable in material cultivated from periodontal pockets. The source of the enzyme or enzymes involved has not been determined.

INHIBITION OF ORAL SPIROCHETES BY ANTIBIOTIC AGENTS IN VITRO

Robert J. Fitzgerald and Edward G. Hampp, p. 20.

Several antibiotics were tested for *in vitro* inhibition of growth of three strains each of *Borrelia vincenti* and of small oral treponemes. The effective concentration ranges in a modified Huntoon's hormone broth were: penicillin G. 0.05 units per milliliter, bacitracin 0.05 to 0.25 units per milliliter, aureomycin and chloromycetin 0.25 to 1.5 micrograms per milliliter, streptomycin 1.0 to 10.0 micrograms per milliliter, tyrothricin 5.0 to 20.0 micrograms per milliliter, lupulon 40.0 to 100.0 micrograms per milliliter and notatin 1,000 to 4,000 units per milliliter. Hydrogen peroxide and sulfarsphenamine were also active at 50.0 to 100.0 micrograms per milliliter.

PHOSPHATASE AND THE ORAL ACTINOMYCES

J. J. Ennever and B. W. Warner, p. 25.

Eleven strains of oral Actinomyces were shown to possess phosphatase activity. Phenolphthalein phosphate served as the substrate. The possible role of these microorganisms in the formation of dental calculus was discussed.

RADIOPACITY OF ORAL STRUCTURES AS A BASIS FOR SELECTING OPTIMUM KILOVOLTAGE FOR INTRAORAL ROENTGENOGRAMS

Arthur H. Wuehrmann and William A. Curby, p. 27.

The purpose of this study was to test the applicability of the high kilovoltage technic for dental roentgenography and to determine the optimum kilovoltage for the production of dental roentgenograms that are capable of demonstrating both hard and soft tissue lesions with one exposure. To accomplish this purpose it was necessary to determine the radiopacity of oral structures varying from soft tissue to enamel. An ivory intraoral step-tablet was designed to compare the radiopacity of oral structures with ivory ranging in thickness from 4.5 to 19.5 mm. of ivory. The step-tablet was fastened to the face of the intraoral film and placed on the occlusal surface of the teeth. In this manner the teeth and the step-tablet were exposed simultaneously. Forty films of nine patients were taken at different kilovoltages. The density of the tissues as registered on the intraoral films varied beyond both the upper and lower ranges of the step-tablet. The step-tablet was exposed extraorally at different kilovoltages for a total of 42 exposures at different milliampere-second values. The findings indicate that the full range of ivory is best demonstrated at tube potentials of 90 to 95 kv.p.

DUST FACTORS INVOLVED IN THE USE OF THE AIRDENT MACHINE

Myron J. Van Leeuwen and August T. Rossano, p. 33.

The use of the Airdent machine and the consequent inhalation of aluminum oxide dust

particles by both patient and dentist present a problem previously not encountered in clinical dentistry. Tests were made to determine the number of aluminum oxide dust particles in the dentist's breathing zone as well as throughout the operating room during a typical dental operation. The results of the tests showed that the contamination of the air was well below the upper limits accepted in industry as being noninjurious. Tests of the air for dust concentration, particle size, and composition indicated that the normal use of the Airdent machine presents little hazard to the health of the patient or of the dentist.

THE BACTERICIDAL ACTION OF CERTAIN ANTISEPTICS ON THE ORAL BACTERIA

L. W. Slanetz and Harriet Reynolds, p. 35.

END-POINT STUDY OF BACTERICIDAL EFFECT OF ANTIBIOTICS USED IN ENDODONTICS

Louis I. Grossman and Constance K. Christian, p. 42.

In vitro tests were made of the effectiveness of bacitracin, streptomycin, penicillin and sodium caprylate in varying dilutions against serial dilutions of organisms commonly isolated from infected root canals. The organisms used were: alpha streptococcus, beta streptococcus, *Streptococcus faecalis, Staphylococcus aureus, Staphylococcus albus, Escherichia coli* and *Candida albicans*. Each antibiotic tested was effective against a specific organism or group, although ineffective even in high concentrations, against the remainder of organisms tested.

MECHANISM OF ACTION OF SODIUM AZIDE ON THE GENUS CANDIDA

Marie S. Slawson and Marshall L. Snyder, p. 47.

The effectiveness of sodium azide (1:10,000) in tomato juice peptone agar (pH 5.0) as an inhibitor of the yeastlike organisms in the saliva was confirmed. Lactobacillus counts on tomato juice peptone agar with and without the azide were in reasonable agreement. Since no specimens were lost by overgrowth of yeastlike fungi, it was concluded that the advantage gained by successful culture of all samples offset the variation in strain sensitivity of the lactobacilli to this chemical. The mechanism of action of the azide on Candida was indicated in a comparative study with bacteria to be on the iron-porphyrin components. The specific action of azide on the cytochrome oxidase enzyme of these organisms (Candida) was demonstrated with the indophenol blue test.

THE CRYSTAL CHEMISTRY OF CARBONATE APATITES AND THEIR RELATIONSHIP TO THE COMPOSITION OF CALCIFIED TISSUES

Duncan McConnell, p. 53.

A modification of the structural hypothesis of Gruner and McConnell for the mineral, francolite, is presented in which 4 CO_3 groups substitute for 3 PO_4 groups and hydrogen ions substitute for P as H_4O_4 groups. Dental enamel, for example, probably contains three different types of structural water or hydroxyl ions in the "mineral phase." Variations of the Ca:P:C ratios can be explained by the new hypothesis, and thus a direct applicability to the crystal chemistry of the "mineral phase" of dental enamel, dentin, and bone is indicated. Since $3Ca_3(PO_4)_2 \cdot CaCO_3$ does not exist, calculations for the composition of the "mineral phase" cannot be correct if this formula is used. It is not possible to account for the properties of carbonate apatites by assuming the presence of $CaCO_3$, whether crystalline or noncrystalline, microscopic or submicroscopic. The proposed structure for francolite will explain qualitatively observed differences between the optical and the roentgen ray diffraction data for fluorapatite and francolite.

CALCIUM EXCHANGE IN ENAMEL AND DENTIN AS SHOWN BY CALCIUM[45]

Elizabeth E. Underwood and Harold C. Hodge, p. 64.

The adsorption of calcium[45] by powdered dentin and enamel from aqueous calcium solutions (1.25×10^{-2}, $\times 10^{-3}$, and $\times 10^{-4}$ M.) has been measured *in vitro*.

On glycol-ashed dentin, the rapid phase of calcium adsorption is an exchange reaction in which as much as one fifth of the total calcium atoms of the dentin may ultimately take part. In fresh dentin, a slower but even more extensive exchange may occur. On enamel, only 2 per cent of the calcium atoms appear to exchange.

The adsorption probably takes place on the surfaces of the ultramicroscopic hydroxyl apatite crystals. These crystals are much larger in enamel (10^{-4} cm. in length) than in dentin (10^{-6} cm.).

ELECTRON MICROSCOPY OF MATURE HUMAN ENAMEL

David B. Scott, Marie J. Ussing, Reidar F. Sognnaes and Ralph W. G. Wyckoff, p. 74.

The structure of mature human enamel was studied under the electron microscope in two types of preparations: (1) shadowed collodion replicas of the surfaces of etched ground sections of enamel and (2) thin sections of demineralized enamel, cut with a rotary microtome equipped with a thermal expansion adapter and glass knives. The principal organic structures observed in both replicas and sections were the prism sheaths and a submicroscopic fibrillar network within and between the prisms. The inorganic portion of the enamel, as studied in replicas, appeared uniformly granular; it was not possible to demonstrate individual crystal outlines.

ELECTRON MICROSCOPY OF THE ENAMEL OF TEETH IN VARIOUS STAGES OF DEVELOPMENT

Reidar F. Sognnaes, David B. Scott, Marie J. Ussing and Ralph W. G. Wyckoff, p. 85.

Thin sections for electron microscopy were made from demineralized and undemineralized mouse and monkey enamel in various stages of development. The specimens were embedded in plastic and sections cut on a rotary microtome equipped with a thermal expansion adapter and glass knives. Newly formed enamel matrix appeared homogeneous in structure. During maturation a transition to fibrillar structure was noted. In regions where the transition had been completed recently, the fibrils were closely packed together. In fully developed, completely calcified enamel the fibrils were widely spaced and apparently thinner. Minute crystal-like particles were observed in sections of undemineralized, partly calcified monkey enamel.

THE EFFECT OF TOPICAL APPLICATIONS OF SODIUM FLUORIDE ON THE ORAL FLORA OF YOUNG ADULTS

Norman H. Rickles and Hermann Becks, p. 94.

Tests were performed on saliva samples of an experimental group of 97 patients and a control group of 46 patients for the purpose of determining: (1) the pH every hour for seven hours of each sample, which had been incubated with a sucrose-indicator mixture, (2) the total titratable acid produced in the mixture at the end of the seven hours, (3) the *Lactobacillus acidophilus* indexes. The experimental group then had four weekly applications of an aqueous two per cent solution of sodium fluoride to their teeth while the control group had four weekly applications of water. One week after the final applications the original tests were repeated for both groups. On inspection of the data it appeared that the saliva of the experimental group might have produced less acid than that of the control group. Evaluated statistically, however, both this apparent difference and the mean decreases in the *Lactobacillus acidophilus* indexes were found to be not significant.

RELATION OF pH TO THE EFFECTIVENESS OF SODIUM FLUORIDE AND STANNOUS FLUORIDE IN DECREASING ENAMEL SOLUBILITY

Joseph C. Muhler and Harry G. Day, p. 102.

The effectiveness of sodium fluoride and of stannous fluoride in decreasing the solubility of powdered enamel is substantially independent of the pH at which the fluoride is applied to the enamel, as judged from experiments in which the pH ranged from 2.5 to 7.0. This is contrary to certain reports in the literature. The reason for the conflicting conclusions is presented. In accord with other evidence cited, it is shown that stannous fluoride is much more effective than sodium fluoride in preventing powdered enamel from dissolving in acid.

MEASUREMENT OF DENTAL CARIES INCIDENCE IN SCHOOL CHILDREN USING A SODIUM BICARBONATE DENTIFRICE

Robert J. Bruckner, Thomas J. Hill and Betty J. Wollpert, p. 105.

Four hundred and sixty-nine children 6 to 16 years old were randomly divided into two groups and placed on a toothbrushing program supervised by their teachers and a school nurse. Three hundred and ten children used a dentifrice containing sodium bicarbonate, tricalcium phosphate, saccharin and methyl salicylate. The other group of 159 children used the same dentifrice minus the sodium bicarbonate. Mirror, explorer and roentgenographic (bitewing) examinations were made at the start and completion of the one-year study. Lactobacillus counts were obtained for 349 pupils.

Caries prevalence was expressed as: (1)

percentage of DMF teeth, (2) percentage of DMF surfaces and (3) number of lesions and fillings per 100 teeth. Measurements determined by the three methods showed that the use of sodium bicarbonate slightly lowered the incidence of caries but to an extent that was not significant. The distribution of lactobacillus counts above and below 10,000 per cubic centimeter of saliva, respectively, was comparable for the two groups of children at the start and completion of the study. During the year there was an average increase of 2.3 carious or filled surfaces per extracted tooth.

A MARK SENSE CARD FOR RECORDING DENTAL EXAMINATION FINDINGS

Elliott H. Pennell and Samuel S. Herman, p. 113.

A mark sense tabulating card has been designed for the accumulation of a series of summary statistics descriptive of the dental health status of population groups. The present record form provides inexpensively and rapidly the tabulated totals which are of most frequent concern to the program administrator for planning, evaluation and study purposes. The procedure involved eliminates the need for assembling, coding or key punching of the data after the examination is performed and recorded. Application of the form is discussed in connection with the dental screening of over 7,000 boys who attended the 1950 National Boy Scout Jamboree at Valley Forge, Pa. Age-specific caries experience rates (DMF) are presented in comparison with data from the earlier Hagerstown studies conducted by the U. S. Public Health Service.

DEPTH TESTER FOR DENTAL CARIES LESIONS

Charles F. Bodecker, p. 119.

EPIDEMIOLOGIC STUDIES IN DENTAL CARIES. IV. VARIABILITY OF PROGRESSION RATES OF DENTAL CAVITIES IN THE OCCLUSAL SURFACES OF SECOND MOLAR TEETH

Julian D. Boyd, Kenneth E. Wessels and Robert E. Leighton, p. 124.

The serial course of caries progression in individual tooth surfaces was studied during a four year period. The report summarizes the time required respectively for the first appearance of a cavity and for its progression to specific stages of advance. Without reparative or other dental therapy, cavities remained almost static for many months. In contrast, the initial lesion, presumably carious, appeared in 75 per cent of the subjects within 18 months after eruption. The subjects had received scant dental therapy prior to the study, and only emergency service was offered during it. Oral hygiene on the whole was poor. Fluoride ingestion was minimal. High salivary counts of lactobacilli were the rule. These facts make the slow rates of caries advance seem the more remarkable. The question is raised as to the degree of similarity of findings that might be expected in other groups if dental repair were postponed. As a means of gaging caries progression, the authors urge that test cavities remain unfilled during the course of studies dealing with rates of caries advance.

STUDIES ON THE EFFECT OF METALLIC SALTS ON ACID PRODUCTION IN SALIVA. I

J. C. Forbes and J. D. Smith, p. 129.

Salts of copper, nickel, gold, silver and mercury exerted considerable inhibitory action on acid production in saliva containing sucrose. Salts of magnesium, cobalt, manganese, aluminum, iron and chromium showed little or no activity. A copper concentration of 0.25 mg. per 100 ml. of saliva containing sucrose definitely retarded acid production; 3 to 4 mg. of copper per 100 ml. of saliva completely inhibited acid production.

STUDIES ON THE EFFECT OF METALLIC SALTS ON ACID PRODUCTION IN SALIVA. II

J. C. Forbes and J. D. Smith, p. 132.

Washing the mouth and brushing the teeth with 0.0015 M to 0.01M solutions of a copper or nickel salt caused a reduction in the amount of acid produced in saliva samples collected during the next few hours. This inhibiting effect was maintained by brushing the teeth and washing the mouth after each meal and before retiring. Copper or nickel concentrations of 0.002 M apparently destroy acidogenic organisms of saliva exposed to the metallic salt for a 24 hour period.

THE COPPER AND COBALT LEVELS OF HUMAN SALIVA AND DENTAL CARIES ACTIVITY

Samuel Breizen, Henry A. Spies and Tom D. Spies, p. 137.

Saliva was tested for four trace elements antagonistic to the growth of oral acidogenic bacteria in synthetic media and found to contain copper regularly, cobalt occasionally, and nickel and molybdenum not at all. Copper was present in amounts ranging from 10.00 to

47.50 mg. per 100 cc. in each of the 48 samples of saliva analyzed. Cobalt was present in 10 of 37 samples, the maximum concentration being 12.53 mg. per 100 cc. of saliva. *In vitro* studies clearly demonstrated that the copper and cobalt levels of saliva bear no relationship to dental caries activity. The removal of these elements by chelation did not materially affect acid production in saliva. When added to a synthetic medium in the amounts present in saliva, these elements failed to influence the growth of an oral strain of *Lactobacillus acidophilus*. The concentrations of cobalt and copper required to inhibit acid production in human whole saliva greatly exceed those found to be actually present in this medium.

FRACTURING OF THE MOLAR TEETH IN CARIES-SUSCEPTIBLE AND CARIES-RESISTANT ALBINO RATS (RATTUS NORVEGICUS)

E. C. Nakfoor, H. R. Hunt and C. A. Hoppert, p. 143.

Hunt, Hoppert, and their collaborators have proved that inheritance is an important factor in resistance to dental caries in albino rats (Rattus norvegicus) fed the cariogenic diet devised by Hoppert, Webber, and Canniff. Inbreeding and selection have produced a caries-susceptible and a caries-resistant line.

Resistance to mechanical breakage was tested by dropping an aluminum rod on the cusps of the lower molars of caries-susceptible and caries-resistant rats. The lower molars of the resistant 60 day old animals showed the greater resistance to mechanical fracturing. Unexpected dental caries appeared in some of the less than 60 days old susceptible rats fed on the diet containing rice flour. Staining of the lower molars of susceptible rats suggested a high incidence of microscopic caries. Few fractures were observed in the lower molar teeth of the 60 day old susceptible rats though dental caries appeared in nearly half of them. Therefore, fracturing was probably not an important factor in initiating dental caries in the rats.

STUDIES IN THE SYRIAN HAMSTER II. BLOOD SUGAR; METHOD AND RESULTS

Robert E. Sullivan and Frank G. Everett, p. 151.

A method of obtaining blood from the hamster by intracardiac puncture is described which does away with the difficulties previously mentioned in literature. Blood sugar values using Somogyi's modification of the Shaffer-Hartmann micro method were established for animals on two diets, a maintenance diet and a synthetic diet containing 67 per cent sucrose. Values established for the two diets and for different age groups varied between 92.3 ± 2.8, 88.9 ± 3.7, 92.9 ± 2.8 and 97.3 ± 7.1.

Book Reviews

DENTAL FORMULAS AND AIDS TO DENTAL PRACTICE

By Louis I. Grossman, D.D.S., D.M.D. 318 pages with 25 illustrations. Index. Price $5. Lea & Febiger, Philadelphia, 1952.

This book contains a great quantity of information dealing with preparations and formulas used in various phases of dentistry. Organized as a reference handbook, it is divided into four principal areas of dental practice, and preparations are listed according to their use in operative, prosthetic, therapeutic and diagnostic dentistry.

Preparations and formulas given in the section on operative dentistry include dentin desensitizers, sterilizing solutions, cavity varnishes and types of filling materials.

Materials used in prosthetic dentistry are discussed in detail: impression materials, waxes, investments, models and various other types of materials used in this specialty.

In the therapeutic section are listed preparations used in anesthesia, endodontics, periodontics and oral surgery.

The section devoted to diagnosis deals with roentgenogram processing, bacteriological technics, biopsy and biologic tests.

The author states in the preface that he gathered his materials from many sources, some of which was collected and cherished for many years. He states further that, like timetables, the composition and formulation of proprietary products are subject to change.

In the opinion of this reader the book offers important data and will be a valuable source of information for any dentist.

J. C. Bergmann

THE UNITED STATES PUBLIC HEALTH SERVICE 1798-1950

By Ralph C. Williams. 890 pages with 196 illustrations. Price $7.50. Washington, D. C., The Commissioned Officers Association, U.S.P.H.S., Inc., 1951.

Few people acquainted with the work of the U. S. Public Health Service realize that the organization is now 156 years old. Organized by act of Congress in 1798 as the U. S. Marine Hospital Service to provide medical care for merchant seamen, it was renamed U. S. Public Health and Marine Hospital Service in 1902 and U. S. Public Health Service in 1912. Over the years the duties and responsibilities of this service were increased to include foreign and domestic quarantine, research in the diseases of man, public health grants to states and development of public health methods, to mention only a few.

Of interest to dentists is the progress of dental research initiated and developed by dentists of the U. S. Public Health Service, particularly in the fields of water fluoridation and topical fluoride therapy. In the field of biological research this book reveals a long list of investigators who gave their lives in the search for the causes of such diseases as yellow fever, bubonic plague, malaria, tularemia and Rocky Mountain spotted fever. Man's struggle over the years in the conquest of disease as related in this book is interesting and dramatic reading.

The author, who spent many productive years of his life in the U. S. Public Health Service, has compiled a complete and well-documented history of a proud and illustrious "old line" government service.

Frank C. Cady

CUNNINGHAM'S TEXT-BOOK OF ANATOMY

By James Couper Brash, M.D. Ninth edition. 1,604 pages with 1,252 illustrations, 699 in color. Index. Price $14. New York, London and Toronto, Oxford University Press, 1951.

An interval of seven years has elapsed since the eighth edition of this book was published. The text of this new edition has been thoroughly revised by all the contributors, especially several new co-authors. The book includes contributions from 13 authors. It has been brought up-to-date by the insertion of numerous references to new works in the various subjects. The text is replete with new illustrations, including drawings, roentgenograms and photographs of living models. Some of the older illustrations have been improved. An important innovation in this edition is the provision of a list of references at the conclusion of each chapter.

The Birmingham revision (B.R.) of the Basle Nomina Anatomica is used throughout the text. A complete glossary at the beginning of the book provides synonyms advocated by both the B.N.A. and the Nomenklatur Commission. In a few instances Latin terms have been retained (in brackets) where these may

aid the student to appreciate the derivation of related words.

Cunningham's Text-Book of Anatomy has been a standard reference work since its first edition in 1902. This old established textbook has been an inspiration and source of information for thousands of medical and dental students as well as practitioners all over the world. It deserves to be highly recommended to all who are interested in the subject of anatomy. The editor and his co-authors are to be congratulated on the painstaking care in preparation, which is evident throughout the pages of this work.

E. Alan Lieban

COMMUNITY PLANNING FOR HUMAN SERVICES

By Bradley Buell and Associates. First edition. 464 pages. Index. Price $5.50. New York, Columbia University Press, 1952.

This book is a comprehensive study of four major human problems: dependency, ill health, maladjustment and recreational need. The thesis is documented largely from a survey made in the above-mentioned fields by Community Research Associates, Inc., in St. Paul, Minnesota. This is a non-profit organization devoted to making surveys and conducting research studies in the fields of social welfare and human relations.

In this book is assembled a careful analysis of the many disciplines involved in welfare work. The book brings out that many community services are handicapped not only from lack of funds, but from failure to move in a coordinated and purposeful direction.

The book does more than analyze welfare services. It takes a broad look at the basic problems of people financially below minimum living level, of those who fall ill, and the maladjusted group whose behavior is at odds with society.

There are also concrete suggestions for dealing with the problems of these groups. The book is authoritative since it is written by leaders in the welfare field.

Frank C. Cady

BODY, MIND AND SUGAR

By E. M. Abrahamson, M.D., and A. W. Pezet. First edition. 206 pages. Price $2.95. New York, Henry Holt and Company, 1951.

Thought-provoking evidence is presented in this exploration of hyperinsulinism, a disorder that apparently has been overlooked, at least to some extent. One might be inclined to have some reservations, taking into account the natural tendency of any author to interpret his findings according to his conclusions. Nevertheless there are sufficient hard facts assembled by the authors to warrant studies on the possibility of transient low blood sugar (or hyperinsulinism) being responsible for occult symptoms that may fit into many physical and mental classifications. Certainly there would be no excuse for ignoring or brushing aside the relatively simple blood sugar studies that will provide a conclusive answer promptly.

Enthusiasm of the author and his collaborator over the subject makes the volume interesting reading. In an extensive chapter on alcoholism, evidence is presented that at least in some cases hyperinsulinism, on occasion referred to as dysinsulinism, may be the basic problem. Later in the volume it is also suggested that some cases of narcotic addiction may stem from this. The final chapter, "Hyperinsulinism—Key to Many Doors," contains numerous case histories and relates hyperinsulinism to such serious matters as suicide, murder, neuroses, various allergies, and epilepsy. Sober evaluation warrants the conclusion that the book represents a significant contribution to better understanding of numerous ills that often are baffling to workers in the healing arts.

William W. Bolton

PARADENCIO. PATOLOGIA Y TRATAMIENTO (PERIODONTIUM. PATHOLOGY AND TREATMENT)

By Francisco M. Pucci. Third edition and supplement. 882 pages with approximately 1,000 illustrations. Index. No price listed. Montevideo, Uruguay, Barreiro y Ramos, S.A., 1951.

This is the third edition of a monumental work by Francisco M. Pucci, professor of periodontics at the University of Uruguay. Earlier editions of the comprehensive study, on what the author himself terms one of dentistry's most complicated problems, were considered by specialists in the field to be as complete and authoritative as any books ever written on this specialty.

The present work augments previous volumes by more than 200 pages, including a supplement with chapters correlated to those of the main volume. The latter is divided into two distinct parts:

Part One, Biological and Pathological Considerations of the Periodontal Tissue, is com-

posed of four chapters. They are: fundamentals of periodontics covering anatomy, pathology and histology; contributing factors in periodontal disease; pathogenesis and classification of periodontal lesions (as represented by the American, Viennese and German schools of thought); classification of periodontal diseases.

Part Two, Clinical Approach to Periodontal Disease, contains eight chapters: diagnosis; prognosis; biologic aspects of treatment; treatment lesions of the mucous membrane, covering simple and chronic gingivitis; periodontal therapy (including general concepts and detailed presentation of conservative and surgical procedures, instruments and technics); control of periodontal disease, covering postoperative treatment and oral hygiene procedures; relation of periodontal disease to other pathological conditions; prevention.

Each chapter opens with a summary and closes with a complete bibliography for material covered. The index is most comprehensive.

The book is splendidly bound and printed on a high grade paper in readable type; as in the earlier editions, it is profusely illustrated with roentgenograms, drawings and photographs in black-and-white and in color. It is in Spanish. It is to be regretted that this magnificent work is not available in English, since it would surely be read with tremendous interest by many North American professional men were it not for the language barrier.

Martha Ann Mann

CONNECTIVE TISSUES: TRANSACTIONS OF THE SECOND CONFERENCE

Edited by Charles Ragan. First edition. 190 pages with 80 illustrations. Price $3.50. New York, Josiah Macy Jr. Foundation, 1952.

The Josiah Macy Jr. Foundation of New York has set up a series of conferences on various subjects. Each conference is made up of 15 scientists as a nucleus, with others to be added as may be required. A limited number of guests are invited to attend each meeting. The medical director of the Foundation states: "They [these meetings] are not designed to present neat solutions to tidy problems but to elicit provocative discussion of the difficulties which are being encountered in research and practice."

This volume presents the transactions of such a conference on connective tissue. This conference is divided into five sections as follows:

1. Some Functional Considerations of Ground Substance of Connective Tissue
2. Chemical Morphology of Elastic Fibers
3. Pain Mechanisms in Connective Tissue
4. Repair Processes in Connective Tissue
5. Repression of Scar Tissue

The material is presented as a verbatim account of the conference. No attempt is made to summarize the various sections. No index is included. This format requires a careful reading of the whole conference to obtain an idea of the thoughts presented.

This discussion would be of value to a worker in these fields. Also, it points out the more advanced thinking being used today as the basis for both clinical and laboratory research in connective tissues.

Heyl G. Tebo

PREPARATION, PROPERTIES, AND TECHNOLOGY OF FLUORINE AND ORGANIC FLUORO COMPOUNDS

By Charles Slesser, Ph.D., and Stuart R. Schram, B.A. First edition. 850 pages. Index. Freely illustrated. No price listed. New York, McGraw-Hill Book Co., Inc., 1951.

This volume is primarily of interest to organic chemists and to engineers engaged in atomic energy projects. It is one of the National Nuclear Energy Series of books, in which is recorded the research done in the Manhattan Project and under the auspices of the Atomic Energy Commission during World War II.

Most of the book is devoted to the handling of fluorine and the synthesis of organic compounds of fluorine. Dental applications are not considered.

PSYCHOLOGICAL DYNAMICS OF HEALTH EDUCATION

Proceedings of the Eastern States Health Education Conference, 1950. 134 pages. Price $2.50. New York, Columbia University Press, 1951.

This work is the compilation of experiences related by a group of experts on the subject of motivation, "the ultimate component in effective education." The subject is presented in such a manner as to show the importance of motivation, "without which education is at best little more than the dissemination of information."

Your reviewer was extremely fortunate in attending this conference and in participating in the discussion. The subjects treated were: the motivating pattern of the normal individual, adolescence, the parent group and the older group, dynamic psychology of the group in shaping individual behavior, dynamics

of mass media, publicity and advertising, unions and health education, group tensions and conflicts and their relation to motivation in health education.

A major portion of the book concerns social conflicts in relation to health education: minority groups, emergent and corrective health education, motivation in nutrition education, problems of motivation in venereal disease education, health education and hospital services.

This volume of only 134 pages is packed with informative material on the subject of health education and, as stated before, is directed towards motivation. It is recommended to anyone interested in health education and especially to those in dentistry.

Harry Strusser

PAIN AND ITS PROBLEMS

Edited by Sir Heneage Ogilvie and William A. R. Thomson. 194 pages. Index. Price $3. Philadelphia, The Blakiston Company, 1950.

This is a volume in the British series called "The Practitioners Handbooks." Twenty authors contributed short chapters on pain problems in the various fields of medicine. The first three sections are devoted to basic principles: the physiology of pain, some clinical aspects of pain, and the meaning and measurement of pain.

Included is also a chapter on dental pain, but since it is written to guide the medical practitioner, it will not bring much new information to the dentist or oral surgeon.

So much information is crowded into this small volume, however, that it will prove a very helpful reference book for the dentist, who is so often the adviser of his patients in many extraoral ailments.

Harry Sicher

THE MERCK INDEX OF CHEMICALS AND DRUGS

Sixth edition. 1,167 pages with 2,000 structural formulas. Price $7.50. Rahway, N. J., Merck & Company, Inc., 1952.

The *Merck Index* has been a standard handbook for pharmaceutical chemists for several decades. This, the first new edition since 1940, describes more than 8,000 substances, mostly drugs or chemicals related to drugs.

The descriptions of these drugs, arranged in alphabetical order, stress physical properties and chemical derivatives. Unusually comprehensive lists of synonyms are given in many of the pharmaceutical monographs. In some instances, references to the chemical literature are given.

Information concerning dental uses for many important drugs is inadequate or entirely lacking. Industrial, medical and veterinary uses are frequently cited but are not listed fully. The book is obviously not intended as a therapeutical manual.

The appendixes, on pages 1027 through 1167, include a table of standard buffers for calibrating pH measurements, a table of radioisotopes giving their atomic weights, half-lives and type of radiation, and a table of their current medical uses.

Since much of the information in the *Merck Index* is not readily available from other sources, the Index is valuable, perhaps even indispensable, as a reference book for researchers in the health sciences.

GROWING IN THE OLDER YEARS

Edited by Wilma Donahue and Clark Tibbitts. 199 pages. Index. No price listed. Ann Arbor, University of Michigan Press, 1951.

Papers presented at the third annual Conference on Aging, held at the University of Michigan in 1950, have been compiled in this book. Included are 13 papers written by specialists in their own field, with emphasis on physical health, mental hygiene and education. Intensive consideration is given to the most critical problems of adjustment which older people must anticipate.

These practical, objective papers make a real contribution to the literature concerning aging. The dentist will find especially interesting the suggestions on page 69 in the chapter, "Psychiatric Techniques in the Treatment of Older People."

The writers point out that the roots of this twentieth century problem are to be found in population changes, industrialization, urbanization and the American value system. To meet the needs of mental health, the older person requires physical health, economic security, useful activity, a home, independence and self-respect. His emotional needs increase as the capacity to cope with his problems lessens. He develops feelings of inadequacy and insecurity.

The chapters dealing with community health services, the control of degenerative diseases, the industrial physician and the older worker, will interest persons working in these professional fields.

Each of these papers is well worth reading. Each is functional, pointing toward certain

directives for action. Each pleads for cooperative effort.

The closing paper suggests as a goal for future procedure: health programs, economic planning and psychosocial planning. All of these writers are in agreement that "the challenge of an aging population is an accepted fact."

Sora Barth Loeb

DEVELOPING DEMOCRATIC HUMAN RELATIONS THROUGH HEALTH EDUCATION, PHYSICAL EDUCATION AND RECREATION

Edited by the American Association for Health, Physical Education and Recreation. 562 pages. Price $4.25. Washington, D. C., American Association for Health, Physical Education and Recreation, 1951.

In the introduction of this book is the following statement: "Little is known about how to help children and youth in becoming democratic persons through experiences in the three related fields (health education, physical education and recreation). This year book is, then, a way of pointing up the need for experimentation and research to find better ways to educate for democratic living."

This reviewer was able to find little in this compilation by 40 different writers which relates the fields of health education, physical education and recreation to democratic living.

The contributors to this book represent many fields such as general education and sociology, as well as the fields of health education, physical education and recreation. Each in his turn wrote well in his special field, but the reviewer was unable to find any direct relationship between them. Nor was he able to find a plan for research that might tie up education for democratic living with health education, physical education and recreation.

This is a well-written book by authorities in various fields, but perhaps the title should be *Developing Democratic Human Relations AND* (not through) *Health Education, Physical Education and Recreation.*

Frank C. Cady

LABELLED ATOMS

By Raymond Glasscock. 227 pages with 59 figures and 8 plates. Index. Price $1.25. London, Sigma Books, Ltd., 1951.

Labelled Atoms tells the fascinating story of the development, preparation and use of radioactive isotopes in biology and medicine. The author, an outstanding English scientist, is engaged in the application of tracer technics to biochemical problems of lactation and reproduction. His historical approach to the presentation of complicated information in several advanced fields of modern science is especially helpful to the dentist.

The book ties together and completes the half-remembered information which the dentist picks up from lectures, journals, and the daily press. The important tools of radiobiology (the radioisotope, the Geiger counter, and the radioautograph) are described and illustrated. Their uses in cutting through the knotty problems of carbohydrate metabolism, nutrition, the metabolism of water, blood, and bone are discussed in special chapters. The book is in the popular European science pocketbook style. There is an index; references for further study are given at the end of each chapter.

William Ward Wainwright

AIDS TO ANATOMY (POCKET ANATOMY)

By R. J. Last. Eleventh edition. 379 pages with 60 illustrations. Index. Price $1.75. London, Bailliere, Tindall and Cox, 1951.

This small volume is one of a series of "students' aids." It reviews the entire anatomy of the human body with the exception of the skeleton, which is treated in a separate "Aid to Osteology." The first edition of this book appeared in 1876 and consisted of 64 pages. Now it has grown to a good sized pocket book, in which the reader can find reliable information on anatomic data. For the dentist interested in extraoral structures, it is a source of quick orientation; for the student, an excellent help in reviewing—not in studying—anatomy. The few diagrammatic illustrations are well chosen and clear. Altogether a book that can be recommended if it is used for the purpose for which it has been written.

Harry Sicher

SELECTIVE WRITINGS OF SIR WILLIAM OSLER

By a selected committee, with introduction by G. L. Keynes. 278 pages, with 5 illustrations. Index. New York, Oxford University Press, 1951.

In many ways this is a difficult book to review. It is a collection of addresses and essays selected from the voluminous writing of Sir William Osler. As an excursion into the field of beautiful prose writing it is an educative experience all too rarely offered in these days

when news reporting is masked as English literature.

Besides the delight of reading, there are statements of philosophy, such as given in "The Student Life," the valedictory address delivered to students at McGill University in 1905, which bear reading and re-reading. Again, the modesty as well as insight of the man is beautifully exemplified in his address given at Yale in 1913—"A Way of Life." His philosophy may be well summed up, as he does it, in the words of Carlyle: "Our main business is not to see what lies dimly at a distance, but to do what lies clearly at hand."

To read this book is to gain a clearer insight into Osler as a man. Such reading should prove a delightful as well as cultural experience.

H. Shirley Dwyer

RESEARCH IN MEDICAL SCIENCE

David E. Green and W. Eugene Knox. 492 pages. Price $6.50. New York, Macmillan Co., 1950.

In the introduction the editors point out: "Medical research is no longer the sole province of the medically qualified investigator. Biochemists, immunochemists, virologists, bacteriologists, synthetic organic chemists, physical chemists, physicists, engineers, entomologists, geneticists, parasitologists, and pharmacologists have all joined hands with the clinicians in investigating the nature and therapy of the disease process."

The authors who write of the 26 phases of medical research covered in this book are persons who have combined something of the skills of both the basic sciences and the clinic in each of themselves. They display before the reader a panorama of the objectives and achievements within this area, especially for the benefit of the aspiring student as well as for the interested layman. In the first case, this is done with the hope of directing the beginner and in the second, of protecting the lay reader from the quite common approach of popular writers to the subject of medical research.

Those about to enter this area of activity should first of all read the closing portion of the rheumatic fever chapter and be guided by the advice offered to the beginner. The lay reader, and perhaps even he who is no longer a novice in the literature of science, is advised to follow his own program of approach, beginning perhaps with the section on epidemiology and following that with those on rheumatic fever, direction of surgical effort and physical anthropology. Some such plan will contribute much to both the enjoyment and profit of those who read this book. The last group should by all means include not only the embryo investigator but also his teachers and finally the general reader interested in the growth and future of research.

Edward H. Hatton

THE PRACTICE OF ENDOCRINOLOGY

By Raymond Greene. Second edition. 389 pages with 56 full page plates, six in color. Index. Price $12.50. Philadelphia, J. B. Lippincott Co., 1951.

This book, as the author remarks, is intended for general practitioners and most of the space is allotted to diagnosis and treatment. There is an excellent and reasonably brief chapter on corpulence, and on page 348 a relatively simple table for use in the management of obesity by dieting.

However, this review must emphasize the fact that descriptions of conditions found in the mouth associated with many diseases are inadequate and misleading. This is so because they are based too much on traditional accounts in the literature.

On page 42 of this volume is found the following statement about the mouth lesions of acromegaly: "The shape of the lower jaw is very characteristic, forming a massive downward and forward projection. The whole *mandibular arch* is *much larger* than the *maxillary arch* and projects beyond it, so that the teeth no longer meet, the upper fitting inside the lower. The teeth, especially in the lower jaw, become separated from one another and sometimes they become twisted on their axes, occasionally as much as ninety degrees. Dental caries is common." (Italics inserted).

It seems to me that painstaking study of the jaw lesions as they progress from the very beginning to the final outcome will disclose numerous discrepancies in this presentation. For this purpose, full mouth casts mounted on an articulator, roentgenographic analyses such as used by orthodontists and masticatory function tests should, at least, be used. It seems to me that the two outstanding features of the mouth lesions of acromegaly are the huge tongue, quite as described by the author, and the equally impressive increase in the bone of the ramus of the mandible. The other alterations are subservient to and dependent on these for the most part. It is the latter that pushes the mandibular arch forward and out of occlusion with the maxillary teeth, and not that the mandibular arch is so much larger than the upper. It is the pressure of the large tongue and the attempts to work out a substitute for normal mastication that do

things to the teeth and effect dental caries. The classical descriptions of the mouth lesions of many diseases should be reviewed and restudied on the basis of knowledge gained by the newer methods of analysis.

Edward H. Hatton

THE BATTLE FOR MENTAL HEALTH

By James Clark Moloney. First edition. 105 pages, with no illustrations. Index. Price $3.50. New York, Philosophical Library, 1952.

Considering the scope of its content, this little volume is well written and amazingly complete. The subject matter is divided into eight chapters. Perhaps as important as any other detail, for the student in this field, is the fact that the book is carefully documented with a worthwhile bibliography at the conclusion of each chapter.

The qualifications of the author, his excellent manner of presentation, and the careful documentation of facts that he has observed, make this volume a significant contribution to the vast and voluminous literature in this field.

The author considers from a psychoanalytic viewpoint the rapid increase in mental illness in the United States, coupled with constructive suggestions for bringing about sound mental health. Doctor Moloney amply supports his own theories with scientific, clinical, anthropological and experimental observations. A framework for the proper development of a mentally hygienic childhood is given in detail. The book is easy to read, and can be opened at any point without the reader's feeling a need for orientation.

Those who wish to read a book that will enlighten them on this subject, will find this pleasingly-assembled volume helpful. It is written with a simplicity that is refreshing.

E. Alan Lieban

TOBACCO AND THE CARDIOVASCULAR SYSTEM

By Grace M. Roth. First edition. 66 pages with 8 figures. Index. Price $2.25. Springfield, Ill., Charles C Thomas, 1951.

This book is an attempt to clarify the situation regarding the effect of smoking on the health of the individual. It contains an excellent summary of previous work done on the relationship of smoking to cardiovascular disease. The greater portion of the book is devoted to a discussion of the factors related to physiologic cardiovascular changes produced by smoking, and the presentation of experimental methods and results of original studies by the author. The findings are very interesting and the conclusion is reached that, "smoking of tobacco is most likely a contributory factor and not a primary etiologic one in the production of cardiovascular disease."

This monograph provides useful information not only to the physiologist, but also to the physician and dentist who in their work are daily put to the task of evaluating the effect of tobacco on their patients' health.

J. C. Calandra

STRONG-CARTER DENTAL CLINIC, THIRTY-FIRST ANNUAL REPORT 1950-1951

By the Palama Settlement. 40 pages, 17 illustrations, 22 tables and charts. Honolulu, Palama Settlement, 1951.

This is a well-produced annual report of the excellent work being done both by the Strong-Carter Dental Clinic and the Division of Dental Health Education of the Department of Public Instruction. If the extraction of permanent teeth is used as a yardstick, the work of the clinic would seem to be accomplishing its purpose. The number of extracted permanent teeth per 100 children has been reduced by almost half in the twenty-two years of the clinic's work. As a report of work this is a well prepared and complete summary of work accomplished. It is attractively prepared. The only criticism from this reviewer is that the use of "pictagrams," or symbols, might make the statistical reporting more attractive and more readily understandable to the lay reader.

H. Shirley Dwyer

COMMUNITY HEALTH EDUCATION IN ACTION

By Raymond S. Patterson and Beryl J. Roberts. 346 pages with 34 illustrations. Index. Price $4.50. St. Louis, C. V. Mosby Co., 1951.

Every health educator, whether trained or self-appointed, should have a copy of this book. Likewise it should be in the hands of public health administrators who could profit from reading Chapter Two.

From a dental point of view, this book might not only prove of interest to dental groups such as Oral Hygiene Committees and local or state Councils on Dental Health, but might also save their money and energy. Chapters 11, 12, 13 and 14 dealing with the educational use of pictures, exhibits, press re-

leases, and the radio should prove especially valuable to such groups.

The chapter on appraisal and practices is rather weak, but we must realize that no really good yardstick is readily available for accurate measurement of educative procedures. The authors point this out when they say: "As health educational methodology itself improves it is likely that parallel improvements will come in the techniques of measuring our successes and failures."

All in all, this is an above average book in the field of health education. It is practical, informative, and useful. The degree of its value to any individual will of course depend on the use that person makes of the material it offers.

H. Shirley Dwyer

ORAL AND DENTAL DISEASES

By Hubert H. Stones. Second edition. 1,012 pages with 959 illustrations, 91 in color. Index. Price £5 ($14). Edinburgh, E. & S. Livingstone Ltd., 1951.

Both in scope and content, *Oral and Dental Diseases* is one of the outstanding texts in this field; it should be in the library of every practitioner who is concerned with the identification of oral diseases, their origin and their behavior.

As the first edition of this book was reviewed in THE JOURNAL [38:797 (June) 1949], the interested reader is referred to that review for information on the organization of this book.

The author lays great stress on etiology, pathology and the clinical picture, rather than on details of treatment. This practice seems to be logical, since treatment has to do with technical details which would be out of place in a text of this character and which would expand its size out of reasonable dimensions.

The contents indicate the author's wide and extensive acquaintance with the literature of this field and also underline his constant practice of assigning credit where credit is due. For example, on page 9 of the preliminary pages are listed the sources of illustrations taken from other works. It should be noted that out of some 96 of these, about 29 are of North American origin.

Each chapter is followed by numerous citations which are both pertinent and timely. The standards of illustration are high; relatively few may be classified as poor and most of those are the result of poorly prepared specimens.

As to objections, the reviewer feels that "congenital" syphilis is not too good a term for that phase of syphilis; "prenatal" is more suggestive of the way in which it is acquired. Also, there is no mention of squamous cell carcinoma, although this form of cancer is discussed under another name. Finally, it seems that not enough attention has been given to the technics developed in North America for management of jaw fractures.

The reader who may be interested in the chemistry of caries should compare the chemical reactions found on page 286 and in Table 8, with those presented by Fosdick and his co-workers. This is a good book to have and use.

Edward H. Hatton

GOOD HEALTH FOR YOU AND YOUR FAMILY

Edited by E. Patricia Hagman. First edition. 305 pages with 36 illustrations. Index. Price $3.75. New York, A. S. Barnes & Co., 1951.

Prepared from publications of the Health and Welfare Division of the Metropolitan Life Insurance Company, this book reads almost like a series of pamphlets on practically every phase of personal health. The subject material is well arranged and grouped into four broad categories: personal health care, common diseases and disorders, maternal and child care, and safety and first aid.

The book is not one which a person would likely want to read through, like a novel; it serves more as a reference for authoritative information on specific health subjects. The material is particularly well written in an easy-to-understand and interesting style.

Descriptions of common diseases and disorders clearly explain such things as what causes appendicitis and what a person should do in case of an attack; what is meant by an allergic reaction and what can be done to alleviate allergies; what cancer is, its warning signs, and what can be done about it.

The section on heart disease explains some common fallacies many people accept as facts, describes the various types of heart disorders and gives encouraging suggestions as to how persons can live happily in spite of heart disease. The section on mental hygiene clarifies for the layman many facts about mental disorders, the understanding of which helps to remove doubt and fear from the mysterious and misunderstood condition that affects a large part of our population.

A paragraph from the preface serves well as a description of what the book is intended to accomplish:

"This volume should prove an invaluable source book for every individual and family. Fear is one of the greatest enemies of good

health. The material in this book will serve to make its readers better informed and more intelligent on everyday health problems. It is not intended to be a 'doctor book,' for, indeed, no greater truth has been spoken than the oft-quoted phrase: 'He who hath himself for a doctor, hath a fool for a patient.' Vibrant health is premised upon intelligent daily living, avoidance of known hazards, early recognition of symptoms when they do occur, prompt diagnosis and treatment by qualified medical personnel, and common sense convalescence until normal routine can be re-established. Information contained in this volume will help each individual to understand his personal and social responsibility for maintaining his own health and safeguarding that of his family and neighbors."

W. Philip Phair

REVIEW OF PHYSIOLOGICAL CHEMISTRY

By Harold R. Harper, Ph.D. Third edition. 260 pages with 13 illustrations and 23 tables. Index. Price $3.50. Palo Alto, Calif., University Medical Publishers, 1951.

This volume fulfills all its author's aims, as stated in the preface. The fundamentals of physiological chemistry are clearly expressed and logically presented, fortunately without obscuration by verbiage.

While there is a dearth of theory and speculation, the book is a mine of useful information. When facts are one's quest, it is a pleasure to consult the extensive and highly analytic index and to find on the indicated pages the information wanted. The reader is not swamped with footnote references to original sources for which the average reader has little time.

The illustrations are few—13 in all—but are very instructive; especially noteworthy is the one picturing the pituitary hormones and the target glands, on page 224. Structural formulas abound. Numerous diagrams assist the reader in following highly involved chemical processes; for example, the tri-carboxyilic acid cycle, on page 131.

The book appears in offset form, with a flexible binding. The type is small, the line very long (5.5 inches) and spacing sparse. This leads to some difficulty in reading and to eye-strain and fatigue. However, this is balanced by other features of the printer's art which give the page a pleasing appearance.

W. D. Zoethout

THE GENETICS OF MICRO-ORGANISMS

By D. G. Catcheside. 223 pages with 35 illustrations and 49 tables. Index. Price $4.50. New York, Pitman Publishing Corp., 1951.

According to the preface, "This book is based on a course of lectures devised for biochemists specializing in the microbial aspects of their subject. It attempts to provide an introduction to the general and special aspects of the genetics of microorganisms . . . This field of research is extremely important in biology, partly because the application of genetic methods appears capable of aiding the solution of microbial problems, but mainly because the fusion of biochemistry and physiology with genetics is necessary to the solution of the innermost mystery of the cell, namely the nature and the modes of action of the genes."

A complete understanding of the discussions necessitates an extensive knowledge of genetics and terms used in genetics, plus a knowledge of the cytology of the micro-organisms studied.

Armed with this basic knowledge, the reader can follow the analyses given.

The material in this book would be of extreme value to the limited group of individuals for whom the book was written; however, it is evident that it would be of little value to anyone outside this group.

T. L. Grisamore

Deaths

Albright, Charles F., San Francisco; College of Physicians and Surgeons, San Francisco, 1901; died February 23.

Bailey, Charles H., Denver; Kansas City-Western Dental College, 1917; died February 14; aged 59.

Barnett, Joseph H., New York; New York College of Dentistry, 1912; died March 8; aged 63.

Barnhard, George W., Toledo, Ohio; Pennsylvania College of Dental Surgery, Philadelphia, 1900; died March 1; aged 75.

Barton, Sidney E., Wausau, Wis.; Chicago College of Dental Surgery, Loyola University, 1918; died February 19; aged 55.

Beattie, Denny B., New York; School of Dentistry, Vanderbilt University, 1912; died February 18; aged 61.

Becker, Benjamin, Philadelphia; School of Dentistry, Temple University, 1936; died March 1; aged 39.

Berg, Clifford J., Iola, Wis.; Dental School, Marquette University, 1925; died March 4; aged 53.

Blasingame, David J., Columbus, Ga.; Atlanta Dental College, 1902; died January 3.

Boucher, Charles W., New Kensington, Pa.; Baltimore College of Dental Surgery, 1892; died January 26; aged 87.

Britzius, Harry A., Minneapolis; College of Dentistry, University of Minnesota, 1909; died February 6.

Brooks, Chauncey E., Marysville, Ohio; College of Dentistry, Ohio Medical University, 1904; died February 20; aged 74.

Brooks, John M., Buffalo; School of Dentistry, University of Buffalo, 1921; died February 19; aged 55.

Burke, John P., Washington, D. C.; School of Dentistry, Georgetown University, 1921; died March 8; aged 54.

Burleigh, Joseph E., Lafayette, La.; School of Dentistry, Tulane University, 1910; died February 22; aged 66.

Calman, Jacob S., New York; New York College of Dentistry, 1912; died March 1; aged 63.

Cheney, Charles M., Eureka, Kan.; Western Dental College, Kansas City, 1897; died January 27; aged 76.

Connor, Arthur A., Tacoma, Wash.; College of Dentistry, University of Iowa, 1913; died February 1; aged 69.

Cooper, Frank G., Philadelphia; Pennsylvania College of Dental Surgery, Philadelphia, 1885; died March 4; aged 88.

Cooper, Lloyd N., Glenside, Pa.; School of Dentistry, University of Pennsylvania, 1915; died February 15; aged 61.

Counter, John A., Sylvania, Ohio; Dental School, Harvard University, 1898; died February 19; aged 77.

Daley, Henry T., Burlingame, Calif.; College of Dentistry, University of California, 1907; died March 28; aged 67.

Daly, Joseph F., Lincoln, Neb.; Omaha Dental College, 1900; died February 10; aged 84.

Donnell, Charles E., St. Louis; School of Dentistry, Vanderbilt University, 1894; died February 20; aged 80.

Dowdigan, John B., Charlotte, Mich.; College of Dental Surgery, University of Michigan, 1895; died February 3; aged 84.

Dulin, George D., Portland, Ore.; School of Dentistry, North Pacific College of Oregon, 1918; died March 10; aged 56.

Duncan, Harry E., Kansas City, Kan.; Kansas City Dental College, 1894; died February 3; aged 80.

Dunlop, William D., Chicago; Chicago College of Dental Surgery, Loyola University, 1905; died February 12; aged 70.

Ebert, Frederick E., Champaign, Ill.; College of Dentistry, University of Illinois, 1908; died February 12; aged 66.

Elfin, Alexander E., New York; New York College of Dentistry, 1924; died February 22; aged 52.

ErkenBrack, Kenneth B., Brooklyn; Dental School, Harvard University, 1919; died February 24; aged 56.

Esrig, Nathan, Brooklyn; College of Dental and Oral Surgery, New York, 1917; died January 30.

Fairchild, Beatrice C., New York; School of Dental and Oral Surgery, Columbia University, 1908; died January 27; aged 66.

Faison, Clyde I., Dallas, Texas; School of Dentistry, University of Louisville, 1905; died February 22.

Finney, Edgar B., Winchester, Tenn.; Atlanta Dental College, 1908; died February 20; aged 76.

Fischer, Howard M., Forest Park, Ill.; Chicago College of Dental Surgery, Loyola University, 1939; died December 24; aged 39.

Fox, Henry M., Peabody, Mass.; School of Dentistry, University of Pennsylvania, 1914; died January 6.

Freedman, Arthur D., Los Angeles; Chicago College of Dental Surgery, Loyola University, 1913; died February 13; aged 64.

Friedel, Reuben, New York; College of Dentistry, New York University, 1914; died February 25.

Friedland, Abram, Newark, N. J.; College of Dentistry, New York University, 1915; died February 6.

Garneau, Peter A., Bridgeport, Conn.; School of Dentistry, University of Maryland, 1906; died December 25.

Gelder, Ray H., Kalamazoo, Mich.; College of Dentistry, University of Michigan, 1924; died February 18; aged 61.

Gilbert, Edward A., Jr., Long Beach, Calif.; College of Dentistry, University of Southern California, 1919; died January 29.

Godfrey, Peter G., Burlington, Vt.; Chicago College of Dental Surgery, Loyola University, 1895; died January 17; aged 91.

Grim, George H., Minneapolis; Medico-Chirurgical College of Philadelphia, 1904; died March 1; aged 79.

Groskie, Joseph M., Chicago; Dental School, Northwestern University, 1924; died March 9; aged 55.

Hacker, Albert C., Milwaukee; Dental School, Northwestern University, 1901; died January 12.

Hackett, Arthur E., San Francisco; College of Dentistry, University of California, 1900; died March 7; aged 72.

Harris, Claude C., Murfreesboro, Tenn.; School of Dentistry, Vanderbilt University, 1913; died February 25; aged 63.

Harrison, Arthur, Fair Lawn, N. J.; New York College of Dentistry, 1918; died February 2; aged 62.

Havens, Ralph M., Chicago; Chicago College of Dental Surgery, Loyola University, 1908; died March 2; aged 67.

Hayes, Walter P., New Haven, Conn.; Boston Dental College, 1896; died February 26; aged 78.

Heaton, Harry C., Indianapolis; School of Dentistry, Indiana University, 1891; died February 28; aged 82.

Helmey, Isaac M., Miami, Okla.; Chicago College of Dental Surgery, Loyola University, 1925; died February 24.

Higgins, Arthur L., Bucyrus, Ohio; School of Dentistry, Western Reserve University, 1897; died February 23.

Hoagland, William W., San Francisco; College of Dentistry, University of Southern California, 1903; died February 26.

Holzman, Harry M., St. Louis; School of Dentistry, Washington University, St. Louis, 1922; died March 27.

Hopkins, Frank T., Decatur, Ga.; Atlanta Dental College, 1899; died March 11.

Jack, William P., Denver; School of Dentistry, University of Denver; 1904; died February 14; aged 89.

James, Luther E., Oblong, Ill.; Dental School, Northwestern University, 1896; died January 12; aged 78.

Johnson, Gordon G., Chicago; Chicago College of Dental Surgery, Loyola University, 1917; died March 14; aged 61.

Joyner, Paul M., Union City, Tenn.; School of Dentistry, Vanderbilt University, 1901; died February 7; aged 75.

Kahn, Herman E., Denver; Dental School, Harvard University, 1906; died March 2.

Keele, Frederick W., Monticello, Ill.; Western Dental College, Kansas City, 1898; died February 24; aged 78.

Kelley, Joseph M., Watertown, Mass.; Dental School, Tufts College, 1914; died February 29; aged 61.

Kinsley, Jay D., Cedar Rapids, Iowa; College of Dentistry, University of Iowa, 1898; died March 5; aged 77.

Kirsten, Philip J., Chicago; College of Dentistry, University of Illinois, 1926; died April 5; aged 53.

Kraft, Louis H., Collinsville, Ill.; School of Dentistry, Washington University, St. Louis, 1900; died January 18; aged 73.

LaBarre, Monroe B., Stroudsburg, Pa.; died March 1.

Lantheaume, William J., San Francisco; College of Physicians and Surgeons, San Francisco, 1926; died February 8; aged 56.

Leisten, Abraham, Newark, N. J.; New York College of Dentistry, 1921; died February 22, aged 56.

Lerner, Philip, Boston; Dental School, Tufts College, 1923; died January 13; aged 58.

Lipschitz, Benjamin, New York; Pennsylvania College of Dental Surgery, Philadelphia, 1906; died January 9.

Lipskar, Abraham, Kingston, N. Y.; College of Dental and Oral Surgery, New York, 1918; died January 19.

Locke, C. Gertrude, Nashua, N. H.; Dental School, Tufts College, 1895; died February 11.

Luce, Charles E., New York; Dental School, Harvard University, 1890; died January 1; aged 91.

MacKechnie, Neil J., Chicago; Chicago College of Dental Surgery, Loyola University, 1904; died December 16.

McClintock, Thomas C., Van Nuys, Calif.; Pittsburgh Dental College, Western University of Pennsylvania, 1908; died March 4; aged 69.

Porter, Clifford H., San Francisco; College of Physicians and Surgeons, San Francisco, 1918; died February 15; aged 58.

Prow, Fred J., Albany, Ind.; Indiana Dental College, 1897; died February 14; aged 82.

Quick, Henry C., St. Louis; School of Dentistry, St. Louis University, 1917; died January 22; aged 58.

Rawlins, George E., Orland, Calif.; Baltimore College of Dental Surgery, University of Maryland, 1904; died January 24; aged 76.

Reynolds, Hugh W., Mishawaka, Ind.; Indiana Dental College, 1908; died January 14; aged 74.

Riley, William J., East Boston, Mass.; died February 28.

Ringer, Leon, Brooklyn; College of Dentistry, New York University, 1951; died August 4; aged 27.

Roeser, Arnold N., Maywood, Ill.; Dental School, Northwestern University, 1924; died February 17; aged 56.

Rose, Lawrence F., Memphis, Tenn.; College of Dentistry, University of Tennessee, 1952; died March 3; aged 31.

Rosenblum, Morris, Newark, N. J.; School of Dentistry, University of Pennsylvania, 1907; died March 18; aged 65.

Ryder, Fred, Rock Island, Ill.; Chicago College of Dental Surgery, Loyola University, 1902; died December 29.

Shelton, Leonard L., Arlington, Va.; College of Dentistry, Howard University, Washington, 1915; died February 29; aged 62.

Shere, Alex A., Chicago; College of Dentistry, University of Illinois, 1907; died March 19; aged 75.

Shuey, Granville E., Oakland, Calif.; College of Dentistry, University of California, 1887; died March 27; aged 87.

Silverstein, Harold A., Boyne City, Mich.; College of Dental Surgery, University of Michigan, 1915; died February 4; aged 59.

Smith, Thomas T., Canton, Ill.; Chicago College of Dental Surgery, Loyola University, 1901; died January 24; aged 80.

Snyder, Henry E., Columbus, Neb.; College of Dentistry, Creighton University, 1907; died February 6; aged 71.

Solow, Leo, Kearny, N. J.; Dental Department, George Washington University, 1920; died January 29; aged 54.

Stamper, Elbridge G., Paducah, Ky.; Dental Department, Ohio College of Dental Surgery, University of Cincinnati, 1902; died January 11.

Stevens, Jay B., Hutchinson, Kan.; Kansas City Dental College, 1914; died January 27; aged 60.

Stone, Frank P., San Francisco; School of Dentistry, Washington University, St. Louis, 1900; died February 24; aged 75.

Taylor, Wade L., Greeleyville, S. C.; Atlanta-Southern Dental College, 1908; died February 28.

Tefft, Charles D., Williamstown, Mass.; School of Dentistry, University of Buffalo, 1898; died February 15.

Theron, Paul S., Temple, Texas; College of Dental Surgery, University of Michigan, 1919; died February 10; aged 54.

Thometz, Mathias A., Chicago; Dental School, Northwestern University, 1914; died December 4; aged 77.

Thornburg, John W., Muncie, Ind.; School of Dentistry, Indiana University, 1925; died February 19; aged 50.

Urban, Walter E., Perryville, Mo.; School of Dentistry, Washington University, St. Louis, 1896; died March 1; aged 77.

Vail, Bert, Olney, Ill.; School of Dentistry, Washington University, St. Louis, 1945; died in December; aged 31.

Virchow, Victor J., St. Paul; College of Dentistry, University of Minnesota, 1923; died January 31; aged 54.

Vize, Paul E., Evansville, Ind.; Indiana Dental College, 1898; died February 14; aged 54.

Weiss, Louis, College of Dental and Oral Surgery, New York, 1923; died March 3; aged 60.

Wemmer, Fred W., Toledo, Ohio; Department of Dentistry, Starling-Ohio Medical College, 1914; died January 26; aged 66.

White, Chapman M., Sacramento, Calif.; College of Dentistry, University of California, 1901; died February 28.

Whitehead, Paul A., Atlanta, Ga.; Atlanta Dental College, 1914; died February 14; aged 64.

Whyte, Isaac H., Wayne, Pa.; Medico-Chirurgical College of Philadelphia, 1904; died February 20; aged 75.

Wiedebeck, Harold V., Racine, Wis., Dental School, Marquette University, 1915; died January 31; aged 61.

Wiese, Jesse C., San Pedro, Calif.; College of Dentistry, University of Iowa, 1919; died March 9; aged 54.

Williams, Edward L., Houston, Texas; School of Dentistry, Vanderbilt University, 1908; died January 17; aged 67.

Wolinsky, Joseph L., Flushing, N. Y.; College of Dentistry, New York University, 1921; died March 5.

Yelton, Leland J., Mountain City, Tenn.; Atlanta-Southern Dental College, 1935; died January 28; aged 41.

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Announcements

MEETINGS OF THE AMERICAN DENTAL ASSOCIATION

Ninety-Third Annual Session	Sept. 8-11, 1952	St. Louis
Ninety-Fourth Annual Session	Sept. 28-Oct. 1, 1953	Cleveland
Ninety-Fifth Annual Session	Nov. 8-11, 1954	Miami

MEETINGS OF STATE SOCIETIES

State	Date	Place	Secretary	Address
Alabama	Apr. 9-11, 1953	Montgomery	F. A. Finney, Jr.,	1045 Forrest Ave., Gadsden
Alaska	July 14-17	Anchorage	R. A. Smithson	Box 1293, Anchorage
Arizona			E. M. Scott	17 E. Welden Ave., Phoenix
Arkansas	Oct. 26-28	Little Rock	D. M. Hamm	White Bldg., Clarksville
California	Apr. 13-15, 1953	San Francisco	L. R. Ludwigsen	450 Sutter St., San Francisco
S. California			C. A. Moss	1401 S. Hope St., Los Angeles
Colorado	Oct. 5-8	Colorado Springs	R. A. Downs	1422 Grant St., Denver
Connecticut			E. S. Arnold	37 Linnard Rd., W. Hartford
Delaware	Jan. 14, 1953	Wilmington	J. J. Ficca	2130 Lancaster Ave., Wilmington
District of Columbia	Mar. 15-18, 1953	Washington	K. H. Wood	202-1835 Eye St., N. W. Washington
Florida	Apr. 19-22, 1953	St. Petersburg	C. T. Brown	602 Citizens Bldg., Tampa 2
Georgia	Oct. 12-15	Savannah	J. M. Heard, Jr.	803 Persons Bldg., Macon
Hawaii			J. H. Dawe	810 N. Vineyard St., Honolulu 17
Idaho	June 30-July 2	Sun Valley	F. E. Carpenter	123 Main Ave., W. Twin Falls
Illinois	May 11-14, 1953	Peoria	P. W. Clopper	623 Jefferson Bldg., Peoria 2
Indiana			E. E. Ewbank	Kingman
Iowa	May 4-6, 1953	Des Moines	H. I. Wilson	639 Insurance Exchange Bldg., Des Moines
Kansas			F. A. Richmond	861 Brotherhood Bldg., Kansas City
Kentucky	Apr. 7-9, 1953	Louisville	A. B. Coxwell	1976 Douglass Blvd., Louisville
Louisiana	Apr. 29-May 2, 1953	New Orleans	J. S. Bernhard	2515 Line Ave., Shreveport
Maine			S. Gower	Skowhegan
Maryland			E. L. Pessagno, Jr.	415 Medical Arts Bldg., Baltimore 1
Massachusetts	May 3-6, 1953	Boston	H. E. Tingley	12 Bay State Road, Boston
Michigan			F. Wertheimer	Michigan Dept. of Health, Lansing
Minnesota	Feb. 23-25, 1953	Minneapolis	C. V. E. Cassel	242 Lowry Medical Arts Bldg., St. Paul
Mississippi			H. M. Campbell	102 Professional Bldg., Tupelo
Missouri	May 10-13, 1953	Kansas City	R. R. Rhoades	201 Merchants Bank Bldg., Jefferson City
Montana			C. S. Renouard	304 Phoenix Bldg., Butte
Nebraska			F. A. Pierson	1112 Federal Securities Bldg., Lincoln
Nevada			R. La Fond	Medical Dental Bldg., Reno
New Hampshire	June 29-July 1	Bretton Woods	F. E. Williams	814 Elm St., Manchester
New Jersey	April 22-24, 1953	Atlantic City	J. G. Carr	407 Cooper St., Camden
New Mexico			J. S. Eilar	Suite 7, Medical Arts Square, Albuquerque
New York			C. A. Wilkie	1 Hanson Place, Brooklyn
North Carolina			B. N. Walker	Liberty Life Bldg., Charlotte
North Dakota			J. H. Lunday	302 Black Bldg., Fargo
Ohio			E. G. Jones	185 E. State St., Columbus
Oklahoma			D. Robertson	434 N. W. 13th St., Oklahoma City
Oregon	Mar. 2-4, 1953	Portland	H. C. Fixott, Jr.	Medical Dental Bldg., Portland

State	Date	Place	Secretary	Address
Panama Canal Zone	Dec. 9		F. D. Buckley	Box 293, Rodman
Pennsylvania			M. D. Zimmerman	217 State St., Harrisburg
Puerto Rico	Jan. 1953		A. Quiñones	San German
Rhode Island			E. L. Bessette	1745 Broad St., Cranston 5
South Carolina		Greenville	J. R. Owings	7 Medical Court, Greenville
South Dakota			E. W. Elmen	Sioux Falls
Tennessee			W. L. McCulley	Brown Bldg., Cleveland
Texas	May 10-14, 1953	Houston	W. Ogle	3607 Gaston Ave., Dallas
Utah			E. O. Thompson	915 Medical Arts Bldg., Salt Lake City
Vermont			W. J. Reardon	Rutland
Virginia			J. E. John	804 Medical Arts Bldg., Roanoke
Washington			C. R. Flood	230 Medical-Dental Bldg., Seattle
West Virginia	July 14-16	White Sulphur Springs	A. B. Drake	508 West Virginia Bldg., Huntington 1
Wisconsin	Apr. 6-9, 1953	Milwaukee	R. A. Mason	964 N. 27th St., Milwaukee
Wyoming		Casper	T. J. Drew	State Capitol Bldg., Cheyenne

MEETINGS OF STATE BOARDS OF DENTAL EXAMINERS

State	Date	Place	Secretary	Address
Alabama			M. D. Edwards	132 Adams Ave., Montgomery
Alaska	July 7-11	Anchorage	J. H. Geyer	P. O. Box 915, Juneau
Arizona	Aug. 11-16	Florence	R. K. Trueblood	25 N. Second Ave., Glendale
Arkansas			H. O. Weatherly	205 Halter Bldg., Conway
California	July 28	San Francisco	K. I. Nesbitt	507 Polk St., San Francisco 2
Colorado			C. K. Phillips	724 Republic Bldg., Denver 2
Connecticut			C. G. Brooks	302 State St., New London
Delaware			P. K. Musselman	143 W. Main St., Newark
District of Columbia			W. M. Falls	1801 Eye St., N. W. Washington 6
Florida	July 7-12*	Jacksonville	A. W. Kellner	P. O. Box 155, Hollywood
Georgia			S. H. Yarbrough	Medical Arts Bldg., Columbus
Hawaii	Aug. 27-Sept. 1*	Honolulu	H. L. Houvener	427 Dillingham Bldg., Honolulu
Idaho			W. K. Adams	1624 Arlington, Caldwell
Illinois	Oct. 21-24	Chicago	W. A. McKee	503 Wood Bldg., Benton
Indiana			C. A. Frech	504 Broadway, Gary
Iowa			H. M. Willits	719 Roshek Bldg., Dubuque
Kansas			G. L. Teall	Box 71, Hiawatha
Kentucky			R. I. Todd	Western Union Bldg., Richmond
Louisiana			A. R. de Nux	Marksville
Maine			R. A. Derbyshire	Box 387, Skowhegan
Maryland			H. Levin	3429 Park Heights Ave., Baltimore 15
Massachusetts			R. A. Barrette	Rm. 33 State House, Boston
Michigan			J. L. Champagne	3714 W. McNichols Road, Detroit 12
Minnesota			F. A. Larson	1632 Washington St., N. E., Minneapolis
Mississippi			J. C. Boswell	508 Lamar Life Bldg., Jackson
Missouri			R. R. Rhoades	414 Central Trust Bldg., Jefferson City
Montana	July 14-17	Helena	V. J. Quinn	Box 865, Helena
Nebraska			H. E. Weber	1210 Federal Securities Bldg., Lincoln
Nevada			G. C. Steinmiller	Suite 6, Masonic Temple, P. O. Box 2473, Reno
New Hampshire			D. J. Freese	4 Wall St., Concord
New Jersey	Dec. 8, 9**‡‡ Dec. 10-12§	Philadelphia Trenton	W. A. Wilson	150 E. State St., Trenton 8
New Mexico			J. J. Clarke, Sr.	Artesia
New York			D. W. Beier	23 S. Pearl St., Albany 7
North Carolina			F. O. Alford	1109 Liberty Life Bldg., Charlotte 2

*Dentistry and dental hygiene.
**Dental clinical examinations.
§Dental written examinations.
‡‡Hygienists' examinations.

State	Date	Place	Secretary	Address
North Dakota	July 7-11	Fargo	A. B. Crabtree	Ellendale
Ohio			H. B. Smith	336 E. State St., Columbus
Oklahoma			J. B. Cole	706 Asp St., Norman
Oregon			F. L. Utter	506 Pioneer Trust Bldg., Salem
Pennsylvania			A. M. Stinson	Dept. of Public Instruction, Box 911, Harrisburg
Puerto Rico	Sept.	Santurce	L. C. Coll	Box 9156, Santurce
Rhode Island			F. M. Hackett	267 Academy Ave., Providence
South Carolina			T. C. Sparks	1315 Pickens St., Columbia
South Dakota			O. Isaak	Tyndall
Tennessee			F. S. Maxey	804 Bennie Dillon Bldg., Nashville 3
Texas			R. T. Weber	312 Capital National Bank Bldg., Austin
Utah			M. W. Merrill	820 N. University Ave., Provo
Vermont			F. A. Reid	Windsor
Virginia			J. M. Hughes	715 Medical Arts Bldg., Richmond 19
Washington	Jan. 12, 1953	Seattle	J. B. Kiefer, Jr.	510 Cobb Bldg., Seattle
West Virginia			C. A. Laughlin	613 Prunty Bldg., Clarksburg
Wisconsin			S. F. Donovan	Tomah
Wyoming			W. A. Hocker	212 O & S Bldg., Casper

MEETINGS OF OTHER ORGANIZATIONS

Name	Date	Place	Secy. or Chm.	Address
American Academy of Dental Medicine	Dec. 7	New York	W. M. Greenhut Secy.	124 E. 84th St., New York 28
American Academy of Periodontology	Sept. 4-6	St. Louis	C. E. Chamberlain Secy.	115 North St., Peoria 5, Ill.
American Association of Dental Examiners	Sept. 5-6	St. Louis	C. A. Bumstead Secy.	924 Stuart Bldg., Lincoln, Neb.
American Association of Orthodontists, Central Section	Oct. 13, 14	Omaha	F. B. Lehman Secy.	1126 Merchants National Bank Bldg., Cedar Rapids, Iowa
American Board of Dental Public Health	Sept. 12, 13	St. Louis	P. E. Blackerby, Jr. Secy.	250 Champion St., Battle Creek, Mich.
American Board of Oral Pathology	Sept. 7	St. Louis	J. L. Bernier Secy.	Army Institute of Pathology, Washington, D. C.
American Board of Oral Surgery	Oct. 5-8	New Orleans	L. M. FitzGerald Secy.	718 Roshek Bldg., Dubuque, Iowa
American Board of Pedodontics	Aug. 4-7	San Francisco	R. L. Ireland Secy.	College of Dentistry, University of Nebraska, Lincoln, Neb.
American Board of Prosthodontics	Feb. 1-7, 1953	Indianapolis	I. R. Hardy Secy.	Tufts College Dental School, 136 Harrison Ave., Boston 11
American College of Dentists	Sept. 7	St. Louis	O. W. Branhorst Secy.	4952 Maryland Ave., St. Louis 8
American Dental Assistants Association	Sept. 8-11	St. Louis	M. L. Martin Exec. Secy.	410 First National Bank Bldg., La Porte, Ind.
American Dental Society of Europe	July 15-18	London, England	F. D. Derrick Secy.	140 Park Lane, London, W. 1, England
American Denture Society	Sept. 5, 6	St. Louis	A. L. Roberts Secy.	Aurora National Bank Bldg., Aurora, Ill.
American Public Health Association	Oct. 20-24	Cleveland	R. M. Atwater Exec. Secy.	1790 Broadway, New York 19
American Society for the Advancement of General Anesthesia in Dentistry	Oct. 27	New York	M. H. Feldman Exec. Secy.	750 Fifth Ave., New York
American Society of Oral Surgeons	Oct. 8-11	New Orleans	R. F. Whalen Exec. Secy.	1112 E. Clay St., Richmond, Va.

Chicago Dental Society	Feb. 8-11, 1953	Chicago	K. S. Richardson Exec. Secy.	30 N. Michigan Ave., Chicago 2
Eleventh International Dental Congress	July 19-26	London, England	G. H. Leatherman Hon. Secy.	35 Devonshire Place, London W. 1, England
Great Lakes Society of Oral Surgeons	Sept. 21	Cleveland	B. B. Cook Secy.	10314 Puritan Ave., Detroit 21
Greater New York Dental Meeting	Dec. 8-12	New York	A. E. Corby Chm.	Hotel Statler, Room 106A, New York
International Academy of Anesthesiology	Oct. 15	New York	I. G. Tomack Exec. Secy.	355 E. 149th St., New York 55
International Association for Dental Research	Mar. 20-22, 1953	Philadelphia	E. H. Hatton Secy.	311 E. Chicago Ave., Chicago 11
National Board of Dental Examiners	Dec. 1, 2		S. Peterson Secy.	222 E. Superior St., Chicago 11
New England Dental Society	Oct. 1, 2	Boston	A. R. Wilson Secy.	44 Farmington Ave., Hartford, Conn.
New Orleans Dental Conference	Nov. 9-12	New Orleans	M. R. Matta Secy.	629 Maison Blanche Bldg., New Orleans
Northeastern Society of Orthodontists	Nov. 10, 11	Montreal, Canada	O. Jacobson Secy.	35 W. 81st St., New York
Odontological Society of Western Pennsylvania	Nov. 11-13	Pittsburgh	W. E. Craig Secy.	206 Jenkins Bldg., Pittsburgh 22
Southeastern Society of Oral Surgeons	Mar. 6, 7, 1953	Birmingham, Ala.	C. F. Landeis Secy.	316 James Bldg., Chattanooga, Tenn.
Southern Society of Orthodontists	Aug. 10-13	Asheville, N. C.	F. P. Bowyer Secy.	608 Medical Arts Bldg., Knoxville, Tenn.

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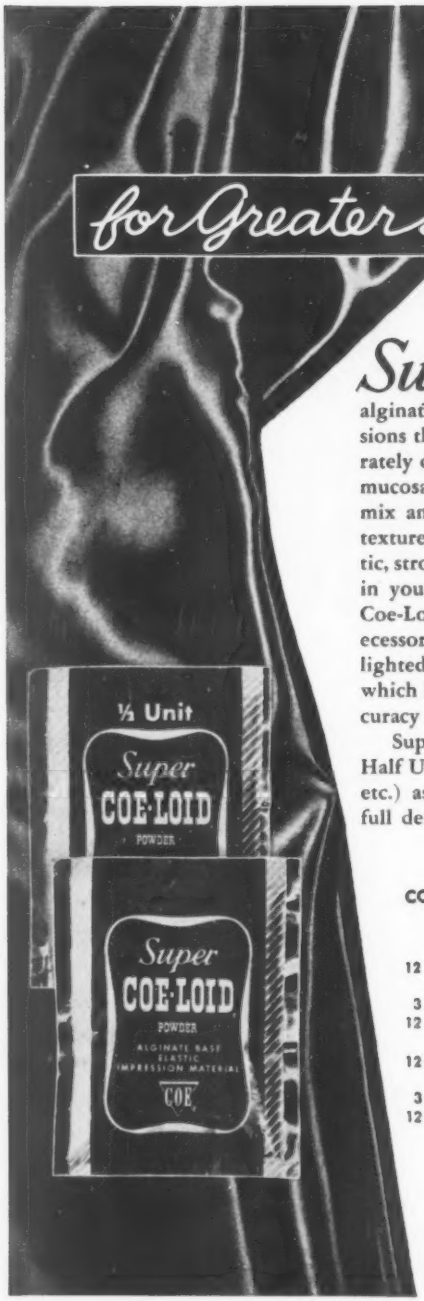

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OHIO—Suburban Cleveland. Well established modern Weber equipment, motor chair, two operating rooms. Can easily gross $20,000 a year. Reasonable for cash. Address ADA Box No. 85.

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OHIO—Well established dental practice, Medical Arts Building, 327 E. State Street, Columbus, Ohio. All equipment completely modern and in fine condition. Excellent laboratory with refrigerator. Spacious air-conditioned suite. Excellent value. Direct replies to Mrs. Paul Dingledine, 2224 Tremont Road, Columbus 12, Ohio, Telephone Ki-7392.

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SOUTH DAKOTA—Beautiful modern apartment on main street, suitable for combination office and home, grass back yard and garage, large territory for dentist, population 400. Direct replies to Mrs. Geraldine L. Gifford, Kennebec, South Dakota.

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FLORIDA—Hollywood: Space with surgeon. Perfect set-up on main highway in area needing dentist. Direct Replies to S. J. Hodkin, M.D., 510 South Federal Highway, Hollywood, Florida.

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INDIANA—Wanted, out of state hygienist to take state board, about $150.00 weekly. Direct Replies to Dr. R. M. Pawnall, Plymouth, Indiana.

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MICHIGAN — Philanthropic foundation wants dentist under 40 years of age for public health work. Starting salary rate $4,500 per annum. Michigan licensure not required provided the individual is a graduate of an accredited dental school and is licensed in another state. For detailed information write Kenneth R. Gibson, D.D.S., M.S.P.H., Director of Child Health Division, Children's Fund of Michigan, 600 Frederick Street, Detroit 2, Michigan.

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NEW YORK—Wanted young dentist licensed New York; general practice, prosperous Westchester city; association, guaranteed income, partnership, ultimate option to purchase; applicants direct from military service especially considered; write full personal particulars with references to ADA Box No. 89.

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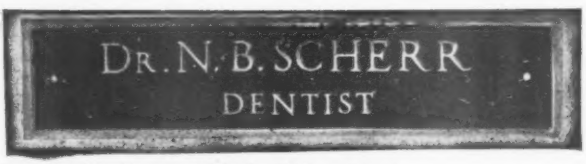

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Dobbs, E. C., and Eskow, A. B.: The Use of Antibiotic Therapy In Oral Therapeutics, New York J. Dent. *21*:458 (Dec.) 1951.

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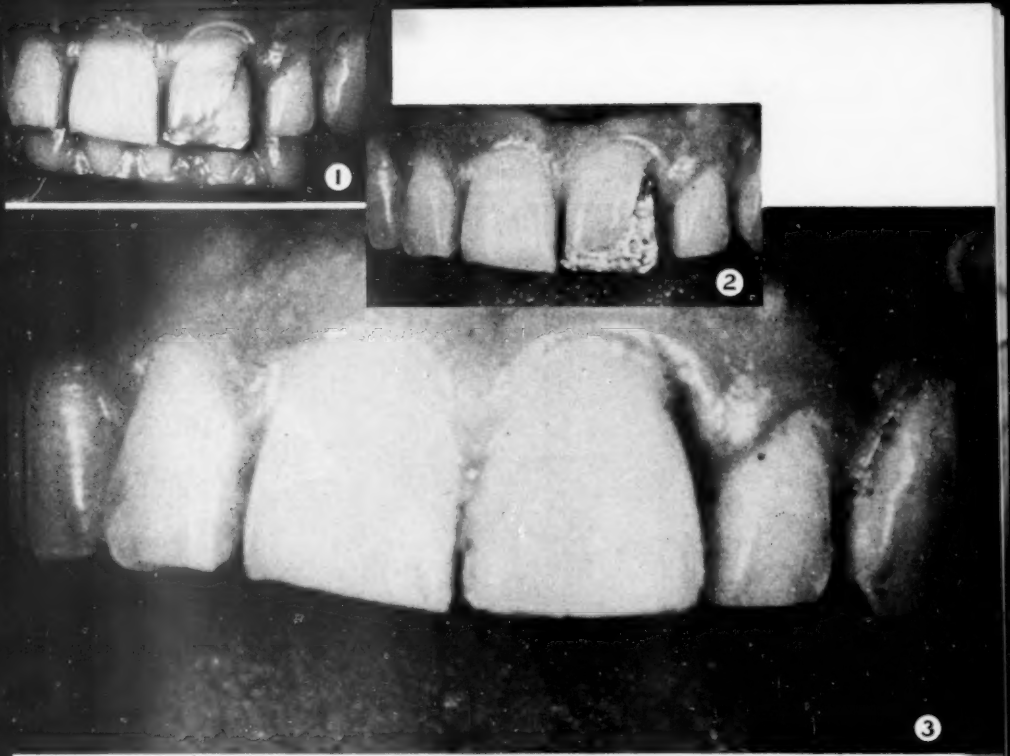

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With the "Brush on" technic, the Kadon mix is started on the wet brush, completed in the cavity itself. As succeeding applications flow within the cavity, excellent adaptation becomes automatic. Durable fillings are placed without fail, and in even less time than required by the conventional technic. Kadon and the "Brush-on" method have veritably revolutionized esthetic dentistry.

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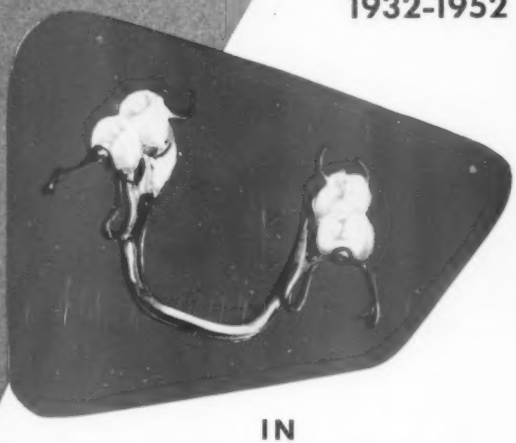

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Monocaine 2ME was developed especially for those cases in which anesthesia is difficult to obtain. It is particularly effective for jacket crown construction, pulp extirpation, preparation of bridge abutments, etc. It produces anesthesia as deep and profound as 4% procaine, but its toxicity is considerably less. Its action is gentle; free from untoward reactions. Tissues return to normal quickly. Use 2ME—the local anesthetic solution that's always safe as well as potent!

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Balancing a tray of dishes on the head may be all right for an "expert"—but the beginner does well to "play safe" by using every precaution to avoid trouble.

The new denture wearer, too, has a lot of practice ahead of him, before he qualifies as an "expert" in the manipulation of his dentures. His natural awkwardness and uncertainty invite the suggestion of Wernet's Powder, to encourage his self-assurance and perseverance in learning the new technique of manipulation.

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WERNET DENTAL LORE

JULY 1952

The slow-moving tortoise apparently gets around! We think of tortoise-shell today as a modern development in its use in the preparation of eyeglass frames; but back in 1850, C. E Harrington of Portsmouth, England, introduced tortoise-shell as a base for artificial teeth.

• • •

One might think that Dr. G. A. Bronwell (1833-1899) would have rested his laurels on his famous anatomical articulator. However, with acute mechanical skill, he produced also a dental engine, an automatic mallet, an electro-magnetic mallet for placing gold foil, and a porcelain crown.

• • •

Not dismayed by the dislocations of the Civil War, the Philadelphia Dental College set up shop in 1862—later merged with Temple University in Philadelphia—is today the second oldest dental college in the country.

• • •

Asserting that modern artificial dentures are only 25% as efficient as natural teeth, Lt. R. S. Ledley of the Army Dental Corps has developed a denture design at the National Bureau of Standards, with individual teeth at specified angles to the plastic base, which he reports should achieve 35% chewing efficiency.

• • •

One of the important pharmaceutical immigrants from abroad is novocaine—discovered in Germany in 1905 by Einhorn and Uhlfelder, and introduced into this country five years later as procaine. It gave great impetus to oral surgery and exodontia; and even today, over 45 years later, it is still one of the most widely used local anesthetics in dentistry.

• • •

The "hot spell" is still on in India—the period during which more than 100 species of Sterculia gum trees are scientifically tapped for the highest grade karaya exudate, the chief ingredient of Wernet's Powder.

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GENUINE HYDROCOLLOID IMPRESSION MATERIAL

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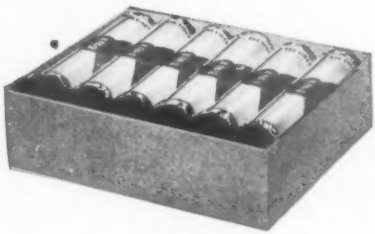

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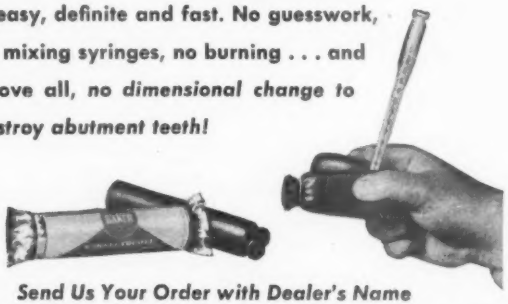

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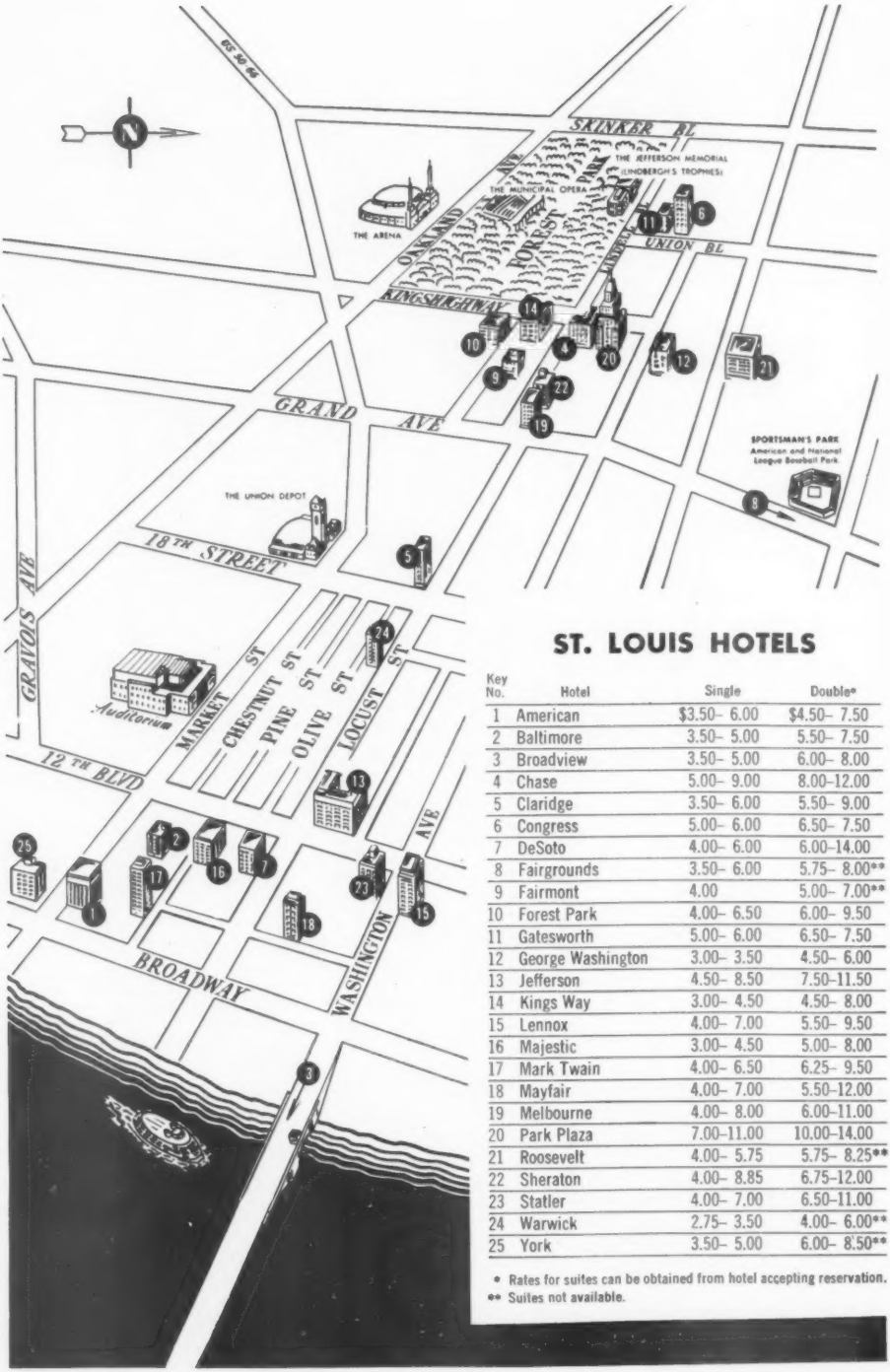


ST. LOUIS HOTELS

Key No.	Hotel	Single	Double*
1	American	$3.50– 6.00	$4.50– 7.50
2	Baltimore	3.50– 5.00	5.50– 7.50
3	Broadview	3.50– 5.00	6.00– 8.00
4	Chase	5.00– 9.00	8.00–12.00
5	Claridge	3.50– 6.00	5.50– 9.00
6	Congress	5.00– 6.00	6.50– 7.50
7	DeSoto	4.00– 6.00	6.00–14.00
8	Fairgrounds	3.50– 6.00	5.75– 8.00**
9	Fairmont	4.00	5.00– 7.00**
10	Forest Park	4.00– 6.50	6.00– 9.50
11	Gatesworth	5.00– 6.00	6.50– 7.50
12	George Washington	3.00– 3.50	4.50– 6.00
13	Jefferson	4.50– 8.50	7.50–11.50
14	Kings Way	3.00– 4.50	4.50– 8.00
15	Lennox	4.00– 7.00	5.50– 9.50
16	Majestic	3.00– 4.50	5.00– 8.00
17	Mark Twain	4.00– 6.50	6.25– 9.50
18	Mayfair	4.00– 7.00	5.50–12.00
19	Melbourne	4.00– 8.00	6.00–11.00
20	Park Plaza	7.00–11.00	10.00–14.00
21	Roosevelt	4.00– 5.75	5.75– 8.25**
22	Sheraton	4.00– 8.85	6.75–12.00
23	Statler	4.00– 7.00	6.50–11.00
24	Warwick	2.75– 3.50	4.00– 6.00**
25	York	3.50– 5.00	6.00– 8.50**

* Rates for suites can be obtained from hotel accepting reservation.
** Suites not available.

Hotel Reservation Application . . .

93rd Annual Session
American Dental Association
September 8-11, 1952
St. Louis, Missouri

A. D. A. HOUSING BUREAU

911 Locust Street, Room 406, St. Louis 1, Missouri

INSTRUCTIONS:

Reservations for hotel accommodations may be secured by completing this application and mailing it to: A.D.A. Housing Bureau, 911 Locust Street, Room 406, St. Louis 1, Missouri.

Be sure to indicate your arrival time in St. Louis. Reservations will be held only until 6 p.m. of the day you indicate when you will arrive in St. Louis. Failure to notify the hotel of any last minute change in your arrival time may result in cancellation of the reservation.

Names of all persons who intend to occupy the accommodations must be listed on the application.

List four choices of hotels.

Confirmation will be sent indicating which hotel has accepted the reservation.

Write the A.D.A. Housing Bureau in St. Louis if you wish to cancel the reservation or make any change in your reservation and NOT the hotel to which you were assigned.

(Please print or type) A.D.A.

Applicant:

Name_____

_____
(Street address) (City) (Zone) (State)

Arrival in St. Louis_____ a.m. p.m. Leaving_____

Accommodations:

Hotel_____ (First choice) Hotel_____ (Third choice)

Hotel_____ (Second choice) Hotel_____ (Fourth choice)

☐ Single occupancy, rate to range from $_____ to $_____ per day.

☐ Double occupancy, double bed, rate to range from $_____ to $_____ per day.
☐ Double occupancy, twin beds, rate to range from $_____ to $_____ per day.
} 2 names must be listed below

☐ Suite of_____ rooms, including parlor, rate to range from $_____ to $_____ per day.

Occupants: (use an extra page for listing additional names if necessary)

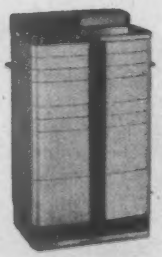
Room will be occupied by:

_____
(Name) (Address) (City) (State)

_____
(Name) (Address) (City) (State)

Two vital reasons for using an American Mobile Cabinet

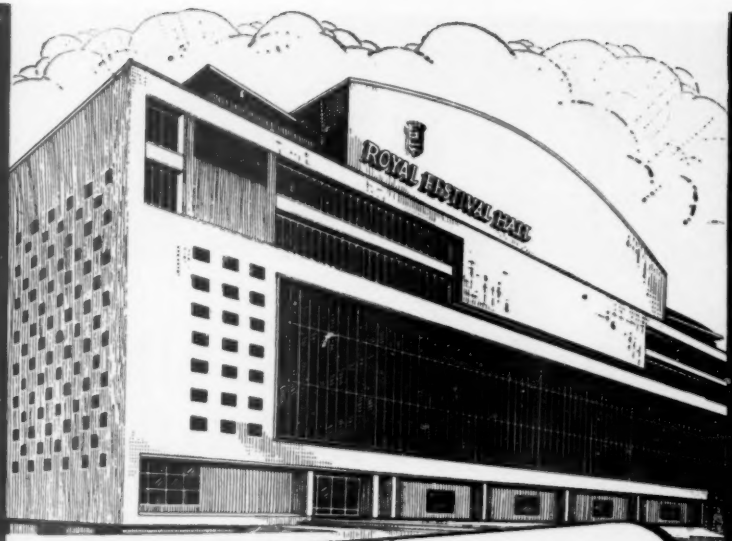
Damage inflicted on a dentist's legs, and on his general health, by endless hours of standing is a deadly serious problem. This hazard is being avoided by a steadily increasing number of realistic dentists who are doing all or part of their operating from a sitting position. American offers *mobile* cabinets expressly designed for this improved technique. Your American Representative can offer considerable information on seated operating—plan to discuss it with him soon.



American Mobile Cabinet

The American Cabinet Company

Division of Hamilton Manufacturing Company • Two Rivers, Wisconsin



An Invitation...

IF YOU ARE attending the Congress of the Federation Dentaire Internationale which will be held in Royal Festival Hall, London, England, in July of this year, we extend to you a cordial invitation to visit the Amalgamated Dental Group's exhibit — which will occupy the center position in the exhibition hall.

We shall also be pleased to make arrangements for you to visit one of the Group's engineering plants, situated near London, to see at first hand the care, craftsmanship, and organization that insure the quality of all "Amalgamated Dental" products.

The services of the Professional and Technical Division — located at 12 Swallow Street, Piccadilly — will be at your disposal during your visit to the Congress.

11TH INTERNATIONAL DENTAL CONGRESS
Royal Festival Hall, London
July 19th-26th, 1952

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ONE OF THE AMALGAMATED DENTAL GROUP OF COMPANIES
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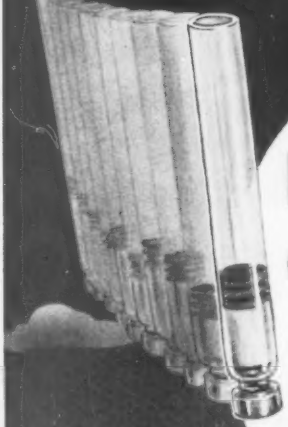
By actual clinical trial[1]...



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supports its position as a preferred local anesthetic. For rapid anesthesia that is both profound and long-lasting, and well within acceptable margins of safety, Xylocaine® Hydrochloride (Astra) invites comparison with any local anesthetic commonly employed in modern operative dentistry.

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stocked by leading dental supply dealers as a 2% solution, without epinephrine and with epinephrine 1:100,000 or 1:50,000; dispensed in 1.8 cc cartridges, packed 50 cartridges to a vacuum-sealed tin. Also available in 20 cc multiple dose vials packed 5 vials to a carton.

(1) Supporting bibliography of references to nearly 100 original papers sent to physicians and dentists on request addressed to:

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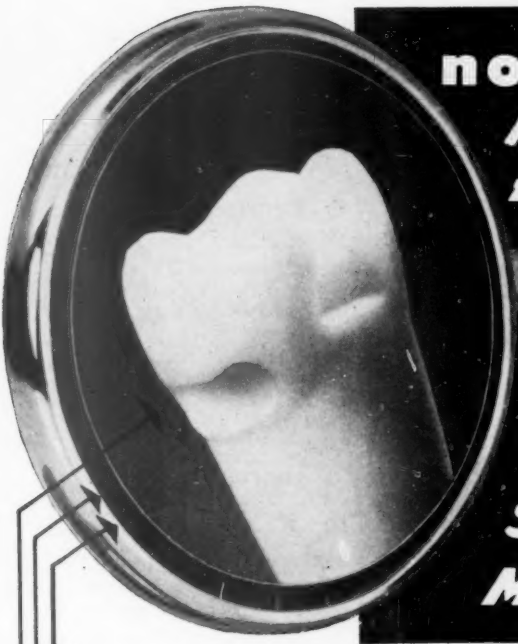

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Ghost Image is Reflected from Glass Surface (L-R).
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Only One True Reflection (L-R) from Rhodium Surface of This New-Type Dental Mirror.
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Putting progress to work has distinguished BOOS ancillary service to dentistry since 1902, and to a large degree has been responsible for gaining and holding the confidence of dentists throughout the United States.

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Only by comparison can we see the tremendous progress made in the past 50 years. For example, the swaged metal partial of 1902, because of its bulk and poor retention, was used only where there were no abutment teeth on which to fasten a bridge.

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Today precision casting and new technics and materials have brought metal partials into wide use. At BOOS, skillful designing and processing by specialized technicians establishes correct retention, bracing, support, and function. And BOOS accuracy means they "go to place" with minimum chair time.

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You'd think they'd be more expensive

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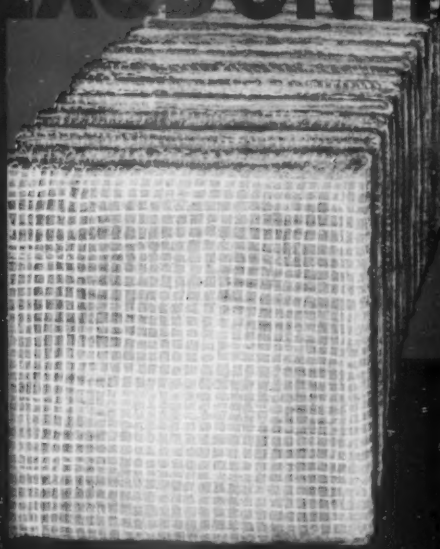

They re[illegible] absorbent than [illegible] of gauze, because of filmated [illegible] is evenly distributed throughout the [illegible] inner surface by a special J & J [illegible]

Machine seals to assure [illegible] rough margins or loose threads. [illegible] use them as bite or socket [illegible] and dam.

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Available at your dealer in two sizes, 2" x 2" and 3" x 3" in sterile units and bulk packages not sterilized.

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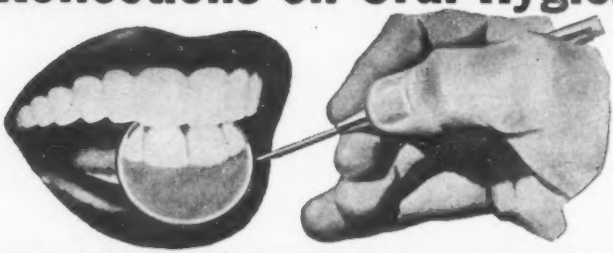
DENTAL DIVISION

Johnson & Johnson

Reflections on Oral Hygiene



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WHAT YOUR PATIENT DOES AT HOME THAT ADDS UP TO SOUND ORAL HYGIENE

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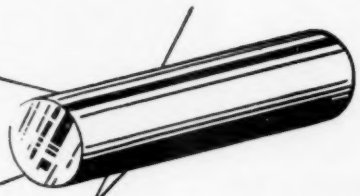

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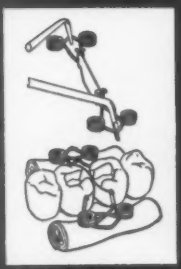

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93rd Annual Session

St. Louis, Mo.

September 8, 9, 10 & 11

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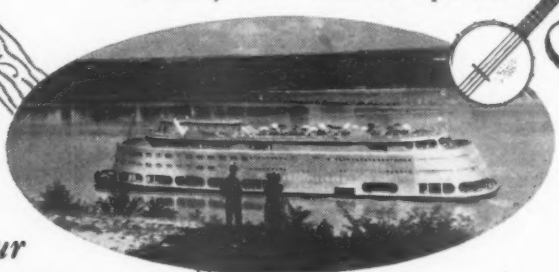

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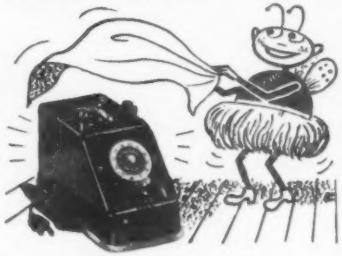

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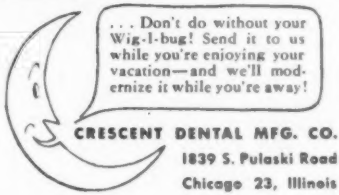
...Have us modernize your old model Wig-l-bug. We check and clean thoroughly, replace the mechanical timer with a new electric timer, remount the mechanism in a beautiful, new streamlined bakelite housing. Costs only $22.50 F.O.B. Factory. Job takes about 2 weeks. Most dentists just don't want to practice without their dependable Wig-l-bug—that's why we suggest you ship your Wig-l-bug before your 1952 vacation. But please don't ship it between July 14 and August 2 as we will be vacationing ourselves.



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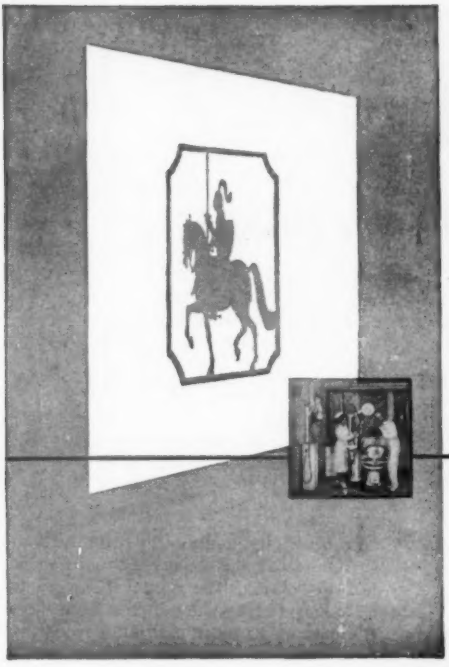
Chicago 23, Illinois



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you can serve many more patients!

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Lifelike appearance. Lucitone's mottled, translucent "tissue texture" permits a higher degree of individuality.

Strength. More than ample to withstand all normal shocks and stresses, in both full and partial dentures.

Lasting fit. Lucitone's dimensional stability is always dependable.

Workability. Free from all technic restraints that may lead to inaccuracies in construction.

Lucitone is the trademark of the acrylic denture material manufactured exclusively for dentistry from Du Pont resins.

LUCITONE

you're sure when you specify

For progress in plastics talk to *Caulk* Milford, Delaware

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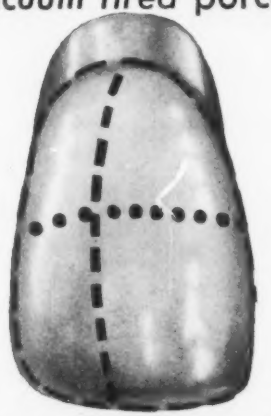

To obtain this three-dimensional harmony: **1**–Classify the basic outline of the face as square, square-tapering, tapering or ovoid. **2**–Classify the cheek planes as round or flat. **3**–Classify the profile as curved or straight.